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Notice to Subscribers: It has been called to our attention that some have failed to receive the November issue of *The Modern Schoolman*. If there are any who have not yet received their copy of the November issue, the editors would appreciate receiving a notice to that effect.

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CAN PHILOSOPHERS COOPERATE?

It is more than ever apparent that the modern schools of philosophy *must* collaborate. The war, with the political and social issues it is pressing, has convinced even the general thinking public of the primacy of ideas—and, of the rather acute dearth of clear-cut principles regarding “our way of life.” Responsible men are seeking ways to complement our technological culture with the “human values”; to focus philosophic thought on sanctions and standards of right thought and action; to fix the role of philosophy in education; to develop a free and reflective life in the community; to secure unity of understanding and purpose in the post-war world. Such problems belong to the philosophers; but they will forfeit their unique opportunity in default of a common front and a commonly acceptable basis for reflective thought. Dr. Sheldon has been asked to write this article in the interests of collaboration. For, “unless the reconciliation is worked out in the concrete, mere expressions of good will count for little or nothing . . .” Jacques Maritain will take up the discussion in a following issue. It is hoped that these articles will provoke serious consideration of the problems of rapprochement by all parties. *The Editors.*

TH E FOLLOWING pages offer suggestions toward harmonizing something of scholastic doctrine with certain strong counter trends in present-day philosophy. For the fair-minded and truth-loving spirit which welcomes such an attempt, the writer tenders his grateful thanks to the Editors. Surely it is well, as it is indeed in keeping with the scholastic tradition of synthesis, that we seek to reconcile antagonists who cannot be justly accused of frivolity or insincerity and who influence potently the thought of our time.

THE PROBLEM SPECIFIED

Looking at the genus of modern philosophies, we see the species (schools or types, we shall call them) fighting with one another. Each school is more or less bitterly opposed to *all* the others. Not on every question, of course; but in fundamental outlook, in the more ultimate principles. And thus we find the Thomists of today (we shall designate them simply scholastics) opposed by and opposing the idealists, the materialists, the sceptics, the recently developed pragmatic process-philosophy—to mention only the prominent cleavages. Now, a project of reconciliation should ideally be directed to every one of these conflicts; but our inquiry here must limit itself. We select certain outstanding oppositions that seem to be most crucial for the enterprise in hand, basic differences of perspective that go deep, so deep as to seem well-nigh impossible of peaceful adjustment.

What then for the scholastic are these basic conflicts? Otherwise put, which of these schools is its especial foe, its foe *par excellence*? Consider idealism. (We mean here metaphysical, not epistemological idealism; the present investigation concerns itself only with metaphysical views.) Idealism, which insists on the ultimate reality of spirit, and spirit alone, is doubtless the least hostile of the lot. It has a religious animus. It stands for the eternal values. Scholasticism may object to its way of reasoning, to the epistemological subjectivism that

has so often gone with it, and to its denial of the ultimate reality of the physical world. But both scholasticism and idealism stand for the supremacy of spirit; the differences, though real, do not go so far down as the differences of either from materialism, or scepticism, or the process-school. And this is borne out, for example, by the "Comments" of non-scholastic thinkers recorded in J. S. Zybur's valuable *Present-Day Thinkers and the New Scholasticism*. The idealists' comments are the more favourable ones. Next, look at materialism. True, it is against scholasticism; it denies the final reality of mind or spirit. Its true opposite, however, is obviously idealism—they are so to speak polar opposites. Scholasticism is not materialism's polar opposite, because it admits, as idealism does not, the irreducible reality of the physical world. In that respect, scholasticism is the foe of idealism. In fact, to speak vaguely but significantly, we should characterize scholasticism as the synthesis of the positive teachings of idealism and materialism. As to scepticism, the scholastic is no more its enemy than is any other school. All make common cause against the deadly germ that would destroy them all. But when we come to the last on the list, the pragmatic process-type, we find a foe peculiar to scholasticism. Note the counts in its indictment of the latter: they go down to the roots of thought itself. This modern school denies the validity of abstract reasoning about reality; it substitutes verification by experiment. It denies eternal truth; it substitutes present practically successful working. It denies the fixity of the scholastic hierarchic order, and the proofs of the First Cause of that order; it substitutes emergent evolution. For the well defined entities (substances) of the scholastic it substitutes a flux. To speak generally and summarily: it condemns the whole attitude of the scholastic to reality as composed of definite things, or *terms*, and treats reality as the *relation* of passage. Now this apparently, if it were valid, would shake the scholastic edifice from the ground up, till it fell. So feels the scholastic, so feels the process-thinker. For scholasticism is above all the philosophy of *stability*: process the philosophy of *flux*.

We do not document these statements; we think almost any reader who belongs to either side would accept them. Doubtless they need much refinement. But we are dealing now more with the spirit than the letter, and they seem not too loose for the present purpose. And in accord with the same, we shall in the following call the new type indifferently pragmatism or process or instrumentalism or naturalism. Itself has used all these names.

Viewed from the scholastic platform, then, the arch-enemy is this recent type. Indeed we have here the most *intensive* conflict in the whole arena of philosophy. And also—today—the most *extensive*. Scholasticism and process are no doubt today the two most influential philosophies—at least in the large area of North America. Each counts more numbers, each has more zealous devotion in its followers,

than any other type. So we take as our topic the strife between *philosophia perennis* and this eager young modernist.

Now the scholastic himself has already made the first gesture or gestures toward a *rapprochement*. Notably in the book above named; and in other instances. Dr. Phelan writes, "In the midst of the confusion of modern thought, there are likewise many valid insights . . . many fresh, though partial, visions of the truth emerge through their reflections. These must not be overlooked."¹ For such words, honour be! The older and maturer of the combatants is the more tolerant; the younger, burning with the zeal of what it believes to be new truth has in it more of the consuming flame that destroys. And so it seems more hopeful to address our irenic proposals to the former. Nevertheless we shall try to show, not only how the scholastic may accept the positive truth in this latest type, but also how the latter may accept the positive truth for which his opponent is doing battle. Both claims must be satisfied, if each party is to sign a lasting treaty of peace. If either party fails to see that the other can perfectly well admit *its* truth, it will only continue to refute the other. And so in what follows we shall address both sides.

Our present task is to realize in act the potentialities of the good motive just noted. But the genus is actual only in the species. So we must take up the *specific* doctrines of each school and try to reconcile the claims of each in respect to those specific doctrines. Unless the reconciliation is worked out in the concrete, mere expressions of good will count for little or nothing with the adversary. And as we cannot in anything less than a volume discuss all the particular issues between these two contestants, we here concentrate on three which seem of maximum import, namely: the existence of a perfect Deity, of the timeless or static, and of the substantial forms and final causes. These three are, moreover, specially pertinent; they meet the modern school, as we are to see, at its three projecting points, so to speak: its pragmatic method, its doctrine of the ubiquity of process, and its naturalism. The three issues are, to be sure, interlocked; they hang together, both for the process-type and for scholasticism. But for the purpose of our discussion we may treat them separately. And they are obviously very central and very hard fought issues. If the opponents can here come to terms, the prospects for other issues are not too dark.

Above all, note this. It is no lasting solution of a deep-seated opposition between sincere and intelligent thinkers for either party to say to the other, "You are right in the main but I have already included your view; mine is the fundamental and total, yours the derivative and partial, mine the absolute, yours the relative truth." The only real solution is one which gives to each party an indispensable and

¹ Gerald B. Phelan, "St. Thomas and the Modern Mind," *The Modern Schoolman*, XX (1942), 47.

ultimate truth of its own; a truth which indeed the other party can consistently admit, and might naturally suggest, but which is not necessarily implied by its principles, and nevertheless adds a new significance to them. *Vetera novis augere*; yes indeed, also *nova veteribus augere*. Peace, to be enduring, means working together, co-operation; and co-operation is mutual contribution, not dictation by one to the other. A hard saying, to be sure, and all the harder in the present case, where both parties are fighting for what they believe with utter sincerity to be the means of man's highest good, here and hereafter. But surely it is the Christian-democratic attitude; surely it is as necessary to the life of philosophy as to the conduct of practical affairs.

Need the present writer remark, before going to the issues, that he may not, in spite of the best intentions, represent the scholastic positions correctly? Let the reader take what follows as an attempt, a well meant endeavour; and if it falls short, may some one else who is better equipped take up the task and carry it to completion.

FIRST SPECIFIC ISSUE: THE EXISTENCE OF A PERFECT FIRST CAUSE

Let us first address the elder school, which has long traversed the *via media* and sensed in so many issues the truth of synthesis. Following the motive of co-operation just emphasized, we propose that the scholastic, accepting the proofs of such a First Cause as rigid demonstration, may also accept the pragmatic test of truth therewith, and find it opening out ever new ways of enlarging the proofs given by reason—ways of which the purely rational attitude would by itself never dream. Nay more, we shall urge that scholastic doctrine itself counsels, though it does not necessitate, the pragmatic test in this matter. Of course it is not our job now to ask whether or not the proofs are sound, any more than to ask whether the pragmatic method is sound. We are asking only whether either thesis can be harmonized with the other.

At the outset we take heart from the fact that in this issue the pragmatist does not—in his character of pragmatist—make the old wholesale accusation of authoritarianism. No, he goes to the other extreme: scholasticism is wrong, not because it is irrational (fideist) but because it is too rational, too *purely* rational, too little of an experimental empiricist. At any rate, this is a gain. It is not just misinformation. It is at least partly correct. Scholasticism is thoroughly rationalist. And it brings the issue to a discussable level, since it raises the question of the nature of proof and evidence—a logical and/or psychological question or better a metaphysical question, as it deals with the meaning and relation of reality to our human minds. And we take further comfort from the fact that what the pragmatist objects to is not this or that slip or missing link in the chain of the arguments but rather the *method* of rational proof itself. He does not, *qua* pragmatist, consider the details of the proof; he concentrates on

just one point—the method of abstract reasoning, as he describes it. He declares that, like every other metaphysical conception, the existence of God is a hypothesis, and can be proved only experimentally. Does the hypothesis enable us to carry out our plans of action, to survive? If it does, it is evidently true; it points to a real factor in our environment, which gives us a better control of our environment, a power upon which we may rely in the prosecution of our ends. As a chart of the country is true because by it we can find our way through the country, so the hypothesis of God's being is true if by it we can find our way through life. *No* hypothesis, he insists, can be proved true beforehand, in advance of *practical* verification. For this reason, and not because of any slips in detail, the scholastic thesis is discarded.

SCHOLASTIC ACCEPTANCE OF PRAGMATIC VERIFICATION

Now, can one who accepts the Thomistic proofs as strictly correct, admit that experimental verification is indispensable? This would be to admit the positive thesis of the pragmatist, but not his denial: which is the method we follow. Yet how, when we have certainty, can such verification be indispensable?

Distinguo: as follows. What does intellectual certainty mean? Does it mean only this, that if any one asks you whether you are absolutely certain of God's existence, you truthfully answer yes? Plainly that is not enough. It means that, but much more. Does it mean that you go to church once in every seven days, and faithfully perform the rites dictated by the church? It means that for many good Christians, but it also means more. Does it mean that you live a good moral life? Surely such a life is a consequence of intellectual certainty, provided man's will co-operates; but it is not itself that certainty. Perhaps we have been considering externals; certainty is an inner condition. In what does it consist then? Do you answer: an absolute unbreakable conviction, a belief so intense that one immediately *sees*—*after having reasoned of course*—by as it were a light of surpassing clearness—that it just is the case that God exists, as the principle of sufficient reason just is the case? Not at all that by some supersensible faculty we see God, but that we see the implication of His existence in that principle of sufficient reason which we cannot doubt? In this answer we must concur. It is true; it is self-sufficient. *And yet we may say more.* A man is one whole individual, integral, not an agglomerate. Now this integrity of personality means that there is a natural connection between intellect and will. True, what his intellect sees is seen whether he acts on it or not; true also, his will is (at least to some degree) free to act; there is no *necessary* connection between seeing a truth and acting on it in some particular deed, at any rate not always. But—here is the essential point—the will *may* act in accord with the truth received by intellect, and if it does, that truth is in a sense confirmed. I see the book on the table before me: I have no reasonable doubt of its being there, and yet when I reach out and take it and open its

pages my knowledge is confirmed, fulfilled in the practical application. Here we must be careful about the meaning of "confirmed." Where intellectual vision is certain, confirmation in the sense of strengthening a weak conviction is out of the question. Confirmation here means rather the illustration of the universal truth in the concrete instance, the fulfilment in action of what intellect knew was possible. Not that the *intellect* needs this confirmation, but that the integrity of the man needs to verify the harmony between the seen universal truth and its illustrations in the instances of a life lived in accord with God's will (presuming of course that we have some knowledge of what such a life would be). The pragmatist uses the word *verify*: it is misleading, partly true and partly false. Verification should mean what we here mean by confirmation—not the *making* true of a hypothesis, but the finding it exemplified in this and that instance. Take an analogy. We know that two and three are five—everywhere, always. Yet that knowledge is confirmed, *i.e.*, illustrated in practically significant ways, when we get change of three dollars in paying a five dollar bill for a debt of two dollars. Arithmetical truth works practically—and life would be a queer mess if it didn't. Yet we are certain of it anyway. If we weren't, we couldn't act on it confidently until we had counted all objects in the universe. Well, we suggest, so it is with regard to intellectual certainty of God's existence. We human beings *do* need a verification, an exemplification of God's being in the conduct of our lives. Without it, our logical certainty tends to become a detached affair, a *merely* speculative delight. The will should co-operate with the intellect here. *Reason* without works is dead. There is something indispensable, indispensable even to the intellectual certainty conveyed by the metaphysical arguments, in the confirmation of God's being which is vouchsafed to the good life. Indispensable even to intellectual certainty, we just said: again, let that phrase be clearly understood. Not that, to the clear-eyed philosopher, the proofs need strengthening; but that the universal Cause, everywhere present by operation, has more meaning, more concretely discerned fullness of being, to man, when this operation is verified in this and that way, in ever new ways indeed as human life grows richer and fuller. Another analogy: God, we believe, without the creation lacks nothing that is possible to being; the creation adds nothing to that infinite fullness which He already possesses. Yet the creation enriches the sum of being in the sense that there are added *exemplifications, instances* of the exemplars or prototypes already contained in God's being. He does not need these instances, yet they are true and good. So, the intellectual certainty of the proofs does not need rational confirmation in man's living of the good life, yet it is *enriched* by practical confirmation. Of course the analogy fails in some ways—but take it as far as you can.

Yes, we may admit to the pragmatist that his way of determining truth is an indispensable part of the programme. To the philosopher,

because he *should* wish to see the First Principle exemplified, it is *logically* a rounder scheme, where the details illustrate the rule. To the layman, even more: for he, we suppose, has not the consolations of high thought, and he needs the experience of God's help in his practical life. But of course, on the other hand, we are not here admitting the pragmatic denial of everything but his own method. Valuable, indispensable to a harmony between intellectual and active life, that method is; exclusive guide to the truth, no.

Now the scholastic may claim that he has always taught this aspect of the pragmatic thesis. Certainly the history of Christianity has illustrated it. The saints and martyrs have indeed experimentally verified to a degree, to a high degree, God's being. So have many other good souls, even outside orthodox Christianity. The perennial existence of Christianity itself is (and on pragmatic grounds too) a verification to a high degree, of the truth of its theses—its main theses at least. We are not now suggesting that the doctrine is wholly novel except in explicit emphasis, and alas! in its claim to exclusive merit. But let the present-day scholastic in turn *emphasize* this positive contribution as fitting his own scheme. More still, let him insist to his opponent that the experience of God's presence, both in mystical communion and in performance of the daily round of work, is a *sine qua non* of a balanced and integrated personality. Let this philosopher, in defending the proofs of God, *insist* that men complement these proofs by the experiences of daily life. And the philosopher, being a finite human, himself needs this reminder—else his certainty will tend to become a merely speculative affair. And note that we just now used the word "complement" rather than "supplement." It is our thesis that the relation between the two sides, between intellect and action, theoretical demonstration and practical verification, is not a merely additive, but also a counterpart relation. And surely the Thomist view with its synthetic *via media* attitude, is fundamentally in accord with such a thesis. As man is a harmony, however imperfect, of the two distinct faculties or functions intellect and will, so should his philosophy reveal that harmony in its method. We propose only that the scholastic *insist* on this point, *insist* on the need of the pragmatic contribution, and in a specific issue like this one. It is not enough to say that he has always had this olive branch up his sleeve. Let him take it out, wave it, rustle its leaves; let him turn the stem to his opponent so that the opponent may grasp it. Let him admit that if the pragmatist had not come forward with his positive thesis, he the scholastic would not have sensed the indispensability, for philosophy as the guide of life, of verification in active living. After all it does not matter much whether a truth is new or old; what does matter is that the truth is indispensable and that other old truth can adopt it and profit by it.

For here indeed is a great contribution of the pragmatist. *Mere* speculative certainty is not enough; it must be joined with the acting

in accord with that certainty. True, in reacting against the all-sufficiency of intellect for life, he has gone to the other extreme, and denied *any* sufficiency to it in its own right. But he justly protests against stopping with the contemplative attitude; it does indeed tend to become detached from life, oblivious of life's needs, and at the end of that road philosophy turns into an intellectual game.

Is it necessary here to say that no verification of God's being can be adequate? Yet there are, for those who have experimented upon the hypothesis, some experiences possessing a certain *aflatus* which they cannot treat as anything but divine. Unfortunately most of these pragmatic "naturalists" have at present altogether too strong a bias against the supernatural to be able to experiment fairly. But the point now is that the experimentation shows the divine ways of working in more and more variety and wealth of kind. Verification has more material to work with as man's life grows richer. It does not strengthen but it enriches the rational proofs. No: we must never rest content with the rational proof of God's being. We must *also* verify His presence, so far as our weak human nature permits, in the daily living.

PRAGMATIC ACCEPTANCE OF ABSOLUTE CERTAINTY

But now for the other side. Can the pragmatist admit that there is a rigid proof, by abstract reasoning, of God's existence? Indeed, as already remarked, in default of showing this, we cannot ask the scholastic to accept the pragmatic contribution. If the one party feels that he can include the other but the other cannot admit *his* claim, that feeling keeps its tone of hostility. We must show that, assuming the pragmatic principle to be ultimately true, true in its own right no matter what else is true, we are able to accept the scholastic principle, nay more, are led, though not compelled, to accept it. (Our proposed solution is not of the Hegelian type, where the truth of each side necessitates the truth of the other.)

How then can the pragmatist, who declares that all truth is hypothetical till verified, possibly admit that the truth here in question—God's being—is certain in advance of complete experimental verification, which of course for us men it can never possess?

The arguments for God's being rest on the principle of sufficient reason (P. S. R. we shall call it). Now the pragmatist has been unwilling to admit that this principle, any principle indeed, is absolutely, eternally true. Could he admit it? Let us look at his own procedure. Would he be willing to say that his own doctrine of verification is not absolutely, eternally sound and true? Dewey at any rate has been willing to say so. Speaking of his own view, he remarks "this conception of philosophy also waits to be tried, and the trial which shall approve or condemn lies in the eventual issue."² Which

² John Dewey, *Intelligence in the Modern World*, ed. Joseph Ratner (New York: The Modern Library, 1939), p. 274.

of course is applying his own doctrine to his own doctrine—and all honour to his good faith here! Also of course this is only making his own doctrine ultimate. We grant he is right. We have agreed to admit that his doctrine, so far as positive, is ultimately true—so far as we can see. We are only pointing out that he *does* have an ultimate principle. Now, does that ultimate principle conflict with the absolute validity of the P. S. R.? On the contrary, it suggests that validity. One of its cornerstones is the conception of *consequences*; another, probably part of the same conception, is *conditions*. For the pragmatist, experiment is precisely the doing of something to an object and witnessing the resultant reaction on the part of the object. Without causality (here the temporal expression of the P. S. R.) the whole process of experiment is impossible of application. Today's experiment tells us of a causal connection; we assume it to be a law of nature, we expect it to hold tomorrow as it did today, and if it is found not to hold tomorrow we think we were mistaken and we look for some causal factor that we had before overlooked, that interfered with the expected outcome. Such is scientific method, of which Dewey so often speaks with highest praise: the method of all intelligence indeed.

Yes, says the pragmatist, I quite agree: such at present is scientific method; and it has so far proved its correctness pragmatically. But, he continues, it is quite another thing to erect this useful principle of causality into an absolute, eternally valid truth. Perhaps science will some day discard it—we don't know as to that. You scholastics turn it into something that goes beyond our pragmatic principle, something which that principle forbids.

Now we ask, is there any *practical* difference between using the causal principle now and planning to go on using it, with no notion of any other possible method, and deeming that principle an absolute one? Surely none. And if there is no *practical* difference there is for the pragmatist nothing to forbid our speaking of it as an absolute eternal principle. "Oh but," perhaps he counters, "there might be some day a practical difference. We might some day find that the conditions-consequences formula no longer holds. Nature might change; nature might become chaotic. Then the devotee of the P. S. R. would come to grief—but we pragmatists wouldn't, for we should adapt our behaviour to that new state of affairs." But surely the pragmatist would come to grief too: if there were no predictable consequences whatever, surely no behaviour could adapt itself to reality, and nobody could tell how he would expect anything to behave under any conditions. We suggest that the pragmatic method really makes just as absolute a truth—for all practical purposes at present—of the causal principle as does the scholastic.

For present practical purposes, we say. That being so, he might at least admit that the principle *may* be eternally valid. He could not on

his principles deny the possibility. He can only deny our certainty of it forever and ever. Meanwhile he *behaves as if* it were certain forever and ever, when he holds up the trial-and-error conditions-consequences method, as an eternally true method—so true that even if it is found to fail, it is so found only by its own procedure. To repeat: *The pragmatist himself accepts some absolute certainty*, in the *practical* interpretation of the term *absolute*. Let us dwell for a moment on this, risking tiresome reiteration; it is most instructive, showing that he is more inclusive than he thinks. He does, we say, accept some absolute truth in the practical sense. As a practical man he accepts the dependability of the laws of nature; for he acts in the confident expectation of their holding true from day to day. Theoretically, he believes he cannot prove that any of those laws will hold tomorrow as they hold today. But actually he has not the slightest doubt. His theoretical doubt of the future which he cannot prove until it is tested, does not count. In his study he writes an article in which he proves (we will assume) that induction gives no rigid proof as to the future. Then he gets up, goes outdoors, taking an umbrella because it is raining and he believes that the raindrops will be deflected by it. The law of inertia which he here accepts, he has just shown cannot be antecedently proved to hold; but his doubt of it has *not the slightest verifiable effect* on his conduct. By his own pragmatic test, that doubt is not a genuine doubt. It has no verifiable influence; it is by his principle an illusion. Practically then he accepts the validity of induction as absolute. Indeed, this sort of thing is true of every theoretical sceptic of metaphysics. Every sceptic has some absolute certainties. For most sceptics today these certainties are the laws of nature discovered by the physical sciences. They are here in the same boat as the scholastic: they *really* accept the causal principle as valid today, tomorrow, and so far as they can see, in the indefinitely long future as in the indefinitely long past. Now, for the pragmatic point of view, this is equivalent to accepting the causal principle as *eternally* valid. The difference between an indefinitely long course of time, and a changeless eternity, does not in this case amount to a verifiable difference; it alters behaviour not one whit. In principle, then, they have no occasion to denounce any belief in eternal, changeless, *timeless* truth. The pragmatic attitude as such is not in the least hostile to the acceptance of such truth.

A PRAGMATIC ATTITUDE TOWARD THE DEMONSTRATION OF GOD'S EXISTENCE

Do not misjudge this argument of ours. We have not at all refuted, or tried to refute, the pragmatic test of truth. On the contrary, we have argued that its validity suggests that the scholastic proofs of God's being *may* be equally valid. Those proofs proceed from the causal principle, which the pragmatist himself accepts as, on his own showing, absolutely valid. It is then his duty as an open-minded truth-

seeker, not to discount those arguments beforehand, but to examine them without bias, to see if perhaps there is any link missing in the chain by which they lead from the empirically verified facts of this given world to the First Cause of it.

Not only is there nothing in pragmatic principles to forbid the examination. There is everything to urge it. If true, the hypothesis of God's being is something of ultimate value, of an importance to man exceeding everything else whatsoever. It determines a man's religion, and his religion is his philosophy of life, his reaction to the total push and pressure of the cosmos. Pragmatic principles naturally drive the philosopher to take up the question, and to take it up more carefully and conscientiously than any other question. And all the more so because he respects and must respect reason as the constructor of likely hypotheses. For him it is reason's part to erect a hypothesis so completely in accord with known facts, so internally consistent, so strongly probable as a fruitful guide to behaviour, that we can proceed with the utmost confidence to test it in the working. Let him then see if reason has not here constructed a well-nigh perfect hypothesis. If he were to find that it has, he might accept it and yet insist as we have already done, that it needs verification. True, he will say that no verification is ever complete; it guarantees naught for the future. We submit that unless he finds a flaw in the construction of the hypothesis of God's being, he should accept it as readily as he accepts the causal laws of nature. Again, he will say that it is impossible to verify an absolutely perfect infinite being. The scholastic says so too. (We are speaking here of nature, not of grace.) But it is the part of reason to suggest that this hypothesis indicates ever new ways of verifying, and doing so less and less inadequately, as man grows in nature. Reason gives the note of infinity, verification takes it in the form of a growing series, always inadequate, always tending toward perfect adequacy.

But the pragmatist will now say that we have overlooked one of his main principles. He declares that we must not "hypostatize" the content of a successful hypothesis into an entity actual merely in its own right. A hypothesis is "a means to the resolution of some problem";³ we must avoid "the conversion of a function in inquiry into an independent structure."⁴ "What is denied is that such propositions have complete and self-sufficient logical character in isolation."⁵ Now, our point is that this denial is not here pertinent. For the hypothesis here in question is that God exists as an external being, with powers of His own, independent of what we think or say or do. The hypothesis is that only such an independently existing being can serve man's need; that a being whose existence depends upon his being sought by us as a help in solving our life-problems, would *ipso facto* not be a help.

³ John Dewey, *Logic: The Theory of Inquiry* (New York: H. Holt & Co., 1938), p. 149.

* *Ibid.*

⁵ *Ibid.*

Independent existence is itself part of the hypothesis. The Thomist argument proceeds to a First Cause that exists in its own right, not depending for its being on its effects. God did not need to create. That is (in pragmatic terms) the hypothesis whose likelihood, on the basis of the causal principle by which the pragmatist conducts his own tests of truth—the pragmatist is invited to consider. And if he can find no flaw in the arguments by which its likelihood is pointed out—and if, so far as he can see, it turns out to be in a degree experimentally verified—then he should admit that it is, at least at present, unavoidably to be accepted as true. Thus the pragmatic method points beyond itself, to a being independent of itself.

And let no one say that this constitutes a refutation of the method. Rather it is a positive virtue, as it is a virtue of the youth to grow beyond his youthful limits to maturity. But let not the mature neglect the new suggestions of the young.

No, the instrumentalist need not here deny the “self-sufficient logical character in isolation” of the object of these arguments of natural theology. If he is faithful to his own method, he will first ask if the logical character—the chain of argument that erects the hypothesis of a perfect independent being—is sound; and second, proceed to give it a fair test in the conduct of his life. True enough, his principles do not *imply* the logical soundness of the hypothesis: but at least they should urge him as a practical being, to consider it very carefully and in virtue of its importance, to see if any gaps, should he discover them, can be filled.

Frankly, how many instrumentalists have done this much? Rather, they have chosen to see the alleged flaws—as, for example, stated in the Kantian criticism of the cosmological argument—and because they did not really *want* to believe in the supernatural, have refused to look further, where they might easily have seen the errors of the Kantian criticism. But we are now only pointing out what they *can* do, and indeed *ought* to do.

SUMMARY

Pragmatic method does not furnish the instruments that construct likely hypotheses. That is the task of reason. Here they must listen to what the scholastic urges. Their contribution—their unique contribution—is the complementary one of connecting a well grounded hypothesis with the conduct of everyday life. Each *needs* the other; neither *includes* the other. Yet it seems to be true that scholasticism’s doctrine of the integrity of man’s mind leads more easily to a recognition of the need of verification by action of the truths taught by intellect, whereas the younger pragmatist, fired by his novel insight, tends with the exclusiveness natural to youth to deny all validity to the older view.

THE OPERATIONS INVOLVED IN INTELLECTUAL CONCEPTION

THAT NO BODY can cause a direct impression upon the human soul is one of the cardinal theses of mediaeval Augustinianism. Not only to St. Augustine himself but to his many followers in later centuries it was a philosophical scandal, and somewhat irreligious, to admit any possibility of action by a physical agent upon a spiritual being. The agent must always be superior to his material; the soul is in all ways higher than the body; hence, though the soul may act upon the body, the reverse action is impossible. This position made it very difficult to account for the ordinary facts of external sensation.¹ Moreover, it forced the Augustinian thinker to have recourse to some special help from God (Divine Illumination) in order to explain how man could have any true, intellectual knowledge, even of the world of bodies.

St. Thomas Aquinas knew this Augustinian view quite well; it was the position of most of the professors of philosophy and theology who were teaching at the University of Paris during his lifetime. He also knew that Aristotle and his Greek and Arabian commentators had given a much different account of the relations of the mind to the world of bodies. In the early Peripatetic tradition the human soul is simply the substantial form of that material organism which is the individual man. It suffers passively, in the order of external sensation, the influence of bodily agents; while, in the order of intellection, the *psyche* is passively actuated by the reception of intelligible forms from a supra-human agency (the Agent Intellect in Alexander of Aphrodisias and the Arabian commentators). One might say that pre-thomistic Augustinianism made the soul too active in its cognitive functions, whereas the Aristotelian school made the soul too passive.

It is a matter of some interest to see how St. Thomas developed a theory mid-way between these contrasting positions, a theory couched in terms of the Aristotelian metaphysics of potency-act (which Augustine never knew) and yet not in conflict with a Christian view of the spirituality of the human soul. The purpose of the present study is to examine one section of the thomistic theory, that which has to do with what is called the first operation of the intellect, simple apprehension, the formation of the concept. The point is not to offer an exposition of the general theory of abstraction, from the point of view of psychology or theory of knowledge,² but to investigate the function

¹ Augustine frankly admits that he is more puzzled by the formation of visual images than he is by the "visions" of prophets and mystics. *De Genesi ad litteram*, XII, 18, 40, (*P. L.*) 34, 469-470.

² Studies from this aspect are readily available. See the excellent essay: Rudolf Allers, "Intellectual Cognition," in *Essays in Thomism* (New York: Sheed and Ward, 1942), pp. 41-62.

of intellectual conception from the point of view of the active and passive operational potencies employed in the production of the concept. This analysis will show that, metaphysically, there are three distinguishable "operations" in what is regarded psychologically as the first operation of the human intellect.

IMMANENCE AND THE COGNITIVE OPERATIONS

The aristotelico-thomistic theory of physical change distinguishes clearly between action and passion. The act of the moving agent is *actio*; that of the moved patient is *passio*.³ The complete event, *motus*, always requires a duality of operational potencies, the one active, the other passive. Because of the otherness of agent and patient in this order, because the *motus* takes place in a *passive potency* which is not of itself adequate to the production of the operation, such a change is called *actus imperfecti*. But there is another kind of operation, called *actus perfecti*, recognized by Aristotle as going on in certain vital potencies when they are so perfected, or brought to the peak of their power, that they can operate without further actuation from an extrinsic active potency.⁴ Such a perfected potency is properly called a *virtus*; it may be an active potency, such as the agent intellect and physical forces, or it may be a special kind of passive potency perfected by the advent of a *habitus*.⁵

To understand the thomistic doctrine of immanent operation, it is necessary to grasp this notion of *actus perfecti*. The textbook definition of immanent activity, viz. that which starts and finishes within one and the same agent, will not do. It is clear that if a dog bites his own tail, he is not performing an immanent operation. True immanence is not found in the lower biological operations. It is not until we come to activities involving the rational potencies of man that we find an event worthy of being called immanent. Thus, St. Thomas states that the only two functions that are immanent are intellection and volition (*intelligere et velle*); sensation is not wholly removed from the class of transitive operations, for the act of sensation is perfected by the action of the external sense object upon the sense potency (*nam sentire perficitur per actionem sensibilis in sensum*).⁶

³ S. Thomae, *In XI Meta.*, lect. 9, (Cathala ed.) #2311-2313. See the longer exposition of the concept of physical *motus*, in Book III of Aristotle's *Physics* and the thomistic *Commentary* on this whole book. Father J. A. McWilliams has given a good explanation of the point in his recent article: "Aristotelian and Cartesian Motion," *New Scholasticism*, XVII (Oct., 1943), 307-321.

⁴ For the distinction of *actus perfecti* and *imperfecti* in Aristotle, see: *De Anima*, III. 7. 431a5. St. Thomas gives a clear statement of the point in: *Expositio super Dionysium, De Divinis Nominibus*, 4. 7, (Mandonnet ed., *Opuscula Omnia*) II, 372.

⁵ *De Virtutibus in communi*, art. 1c, (Marietti ed. of *Quaest. Disp.*) II, 486-487. For a further exposition of the concept of *habitus*, see my essay: "The Role of *Habitus* in the Thomistic Metaphysics of Potency and Act," in *Essays in Thomism*, pp. 103-109.

⁶ S. T., I. 27. 5c.

Nor is this restriction of immanent activity to the rational sphere in contradiction with the many places in which St. Thomas lists three types of immanent functions, viz. sensing, understanding and willing.⁷ Sensation may go on without the control of reason, but such pure sensing is not wholly immanent; some operations of the internal senses (imagination, sense memory and cogitation, but not *sensus communis*) may participate in reason. It is these rationalized acts of sensation which are immanent. For that matter, it will be noted later that not all the operations of the rational potencies are wholly immanent. It is precisely because St. Thomas allows room for a certain transitivity in some of the actuations of the intellect that he can avoid the Augustinian embarrassment in regard to the "continuity" between sensation and intellection.⁸

TRANSITIVITY AND THE COGNITIVE OPERATIONS

We may now turn to the analysis of a key text.⁹ Here, St. Thomas definitely faces the question of the agency and patency of the human intellect in regard to extra-mental, material objects. He first distinguishes two kinds of agents: (i) that which is sufficient in itself (*agens de se sufficiens*); and (ii) that which is insufficient in itself but requires the help of another agent (*agens quod non sufficit de se nisi superveniat aliud agens*). He also describes two types of patients: (i) that which in no way co-operates with the agent (*patiens quod in nullo cooperatur agenti*); and (ii) that which does co-operate with the agent. Then he says that things outside the soul are to the potencies of the soul in three ways: (i) in relation to the potencies of external sensation, extra-mental objects are sufficient agents (*sicut agentia sufficientia*); (ii) in relation to the imagination, bodies are insufficient agents and the imagination is a patient which co-operates with the agent (*tamen imaginatio est patients quod cooperatur agenti*); and (iii) in relation to the possible intellect, a thing of sense is like an insufficient agent: its action does not stop at the imagination, for it continues on through the phantasm to move the possible intellect (*actio ipsarum rerum sensibilium nec etiam in imaginatione sistit; sed phantasmata ulterius movent intellectum possibilem*). St. Thomas takes care to add that this "moving" of the possible intellect is not done solely by the potency of the sense object; it is an insufficient agent,

⁷ Frequently St. Thomas gives "sentire, intelligere et velle," as instances of immanent operations; for example: *De Pot.*, 10. 1c., (Marietti ed. of *Quaest. Disp.*) I, 300; *Sum. c. Gent.*, III. 22, (Marietti ed.) p. 240; *De Div. Nom.*, 4, 7, (Mandonnet ed.) II, 372; *S. T.*, I. 54. 2c.

⁸ Dr. Allers (*art. cit.*, p. 57) speaks of the question of continuity between sensitive power and intellect as, "an unsolved problem in Thomistic psychology." I think the problem has been very neatly solved by St. Thomas himself. One has only to read Father J. Peghaire's study: "A Forgotten Sense, the Cogitative according to St. Thomas Aquinas," *The Modern Schoolman*, XX (March-May, 1943), 123-140, 210-229, to understand the solution.

⁹ *Quodlibet. VIII. art. 3c.*, (Marietti ed.) V, 164-165.

requiring the help of the agent intellect to move the possible intellect (*oportet quod superveniat actio intellectus agentis*). In fact, the agent intellect is the principal agent in this operation of producing the likenesses of bodily things in the possible intellect, the phantasms are like instrumental agents, but the action from the sense object, however attenuated, does penetrate through to aid in effecting the information of the possible intellect.

From this important, but not isolated,¹⁰ text it becomes evident that St. Thomas has departed from the pure, Augustinian position of denying all passivity to the soul in the face of material things. But the question remains: what sort of "movement" is possible in the possible intellect through the agency of the agent intellect and the extra-mental object? Some clarification may be attained by turning again to the concept of *motus*. The original and proper meaning of this term applies to those changes of material things, in which there is the initial aspect of action and the terminal aspect of passion. But *motus* is also applied, by transference, to spiritual things.¹¹ In this second sense, every operation is called a *motus*. Not every operation of the soul is a *motus* in the same sense, however. There are three possible meanings.¹² The operations of the vegetative potencies are *motus* in the proper sense; so, too, are the operations of the sensitive appetites. Less properly, *motus* is used of the functions of the sense potencies; they are not involved in physical changes but in "spiritual"¹³ changes. It is with least propriety, and only metaphorically, that *motus* is used of intellectual operations. When the knower-in-potency becomes the knower-in-act, this is called a *motus*. This differs from physical change, since the operation of the intellect is an *actus perfecti*.

DISTINCT OPERATIONS IN THE DEVELOPMENT OF THE CONCEPT

To understand the force of this last statement, let us now turn to an analytical consideration of three "moments" in the development of the concept in the possible intellect. These moments are all involved in the function of intellectual conception but they are, it would appear, metaphysically distinct operations; though they are not psychologically distinct.

Moment one is the operation of intellectual abstraction. This is often spoken of as the operation of the agent intellect.¹⁴ This is cor-

¹⁰ There are parallel passages to the same effect; see: S. T., I. 84. 6c., and *De Ver.*, 10. 6c., (Marietti ed.) III, 235-237.

¹¹ S. T., I. 73. 2c.

¹² In *I de An.*, lect. 10, (Pirotta ed.) #157-161.

¹³ I am inclined to think that this use of "spiritual" derives from the twelfth book of St. Augustine's *De Genesi ad litteram*, throughout which *spiritualis* denotes the realm of internal sense images and their vision. On this usage in Augustine, see: Gilson, *Introduction à l'étude de s. Augustin* (Paris: 1927), pp. 53-54.

¹⁴ Thus, St. Thomas, *In III de An.*, lect. 10, (Pirotta ed.) #734, speaks of

rect in the sense that the agent intellect is the active potency which causes the event known as abstraction. The agent intellect is always "acting" (in fact, it is difficult to understand why the most obvious translation of *intellectus agens*, viz. *acting intellect*, has been so sedulously avoided in English), but it is not always producing effects.¹⁵ The *passio*, by which the operation of abstraction is completed, does not, of course, go on in the agent intellect. It is the phantasm which is "moved" from potential intelligibility to actual intelligibility.¹⁶ It is probably not necessary to note that *passio* is used here in its broad meaning of any passing from potency to act, not in the strict and proper physical meaning of a material change.¹⁷ Hence, for this operation of abstraction the agent intellect supplies the active potency, the phantasm supplies the passive potency. From the point of view of the intellectual soul, abstraction is an *action*.

Moment two is the operation in which the possible intellect receives the action of the complex agent which is principally the agent intellect and secondarily the active potency of the knowable *res* acting through the phantasm made intelligible *in actu* by abstraction.¹⁸ This second moment is not to be confused, metaphysically, with the first moment; to receive the abstracted species is not the same as to make that species actually intelligible.¹⁹ What is necessary in this second operation is that the possible intellect, which is a passive potency, be brought to a condition in which it is *in actu* (that is, in first act in regard to the second and terminal act which is the production of the concept²⁰), so that it will be capable of operating. It is essential to remember that unless it be so actuated the possible intellect is incapable of acting.²¹ Thus the result of this actuation of the possible intellect is the *formal union* of the thing-known with the potency of understanding, in such a way that they become *one principle* (the possible intellect

the, "operatio intellectus agentis, quae est abstrahere intelligibilia." See too: *De Spiritualibus Creaturis*, art. 10c, (Marietti ed. of *Quaest. Disp.*) II, 357; *S. T.*, I. 79. 3c.

¹⁵ Though always acting, this intellect's action is not identical with its essence. It would be God, if there were such identity. "Intellectus agens est sua actio, est praedicatio non per essentiam, sed per concomitantiam." *S. T.*, I. 54. 1 ad 1.

¹⁶ *S. T.*, I. 79. 3c.

¹⁷ On these two senses of *passio*, see: 2 *Sent.*, d. 19. 3 ad 1, (Mandonnet ed.) II, 489; and *S. T.*, I. 97. 2c.

¹⁸ See: *supra* note 9.

¹⁹ "Recipere species intellectas, quod est intellectus possibilis, et facere eas intelligibiles actu, quod est intellectus agentis, non possint secundum idem convenire . . ." 2 *Sent.*, d. 17. 2. 1c., (Mandonnet ed.) II, 428.

²⁰ For this distinction of first act, "qui est forma," and second act, "qui est operatio," see: *De Pot.*, 1. 1c., (Marietti ed.) I, 2.

²¹ "Intellectus possibilis non habet actiones, nisi postquam fuerit factus in actu." *S. T.*, I. 54. 1 ad 1. Thus Cajetan, commenting on *S. T.*, I. 79. 2, (Leonine ed.) V, 263 says: "Ex hoc vero quod intellectus fit actu ipsum intelligibile in actu, acquirit quandam agendi rationem . . ." This is equivalent to saying that the possible intellect has no efficient causality, *until it is actuated by the product of abstraction*.

in actu) capable of actually producing the concept, in the terminal act of understanding.²² Hence, this second moment in the total event which is called simple apprehension is not, from the point of view of the possible intellect, an action but a *passion*.²³

Moment three is the terminal operation of simple understanding, the production of the concept. Here is where we find true immanence, or at least as much immanence as is possible for an earthly agent. Properly speaking, this operation is neither an action nor a passion. It belongs in the accidental order and, if it must be classified, it is best considered as a quality.²⁴ There is no physical event which is like pure intellection. St. Thomas strove very hard to find terms in which to put his understanding of it. He tried to describe it as a non-physical *motus*, where *motus* is considered, as we have seen, as the act of a perfected potency.²⁵ Again, he tried to explain this operation in terms of *emanatio*.²⁶ Sometimes it is called a *communicatio*, which term brings together the notion of a union of known-thing and knowing-subject with the additional notion of the putting forth of a product of this union.²⁷ In many places, it is termed a *processio* and is used in the explanation of the procession of the Son from the Father in the Divine Trinity.²⁸ But the term which is most helpful, as applied to intellectual conception, is *generatio*. In lieu of a thorough study of the whole list of foregoing terms (which study would require a book not just an article), let us see a few things about this intellectual operation, considered as a generation of the *verbum mentis*.

GENERATION OF THE INTELLECTUAL CONCEPT

It is well known that much of the theory and language of Aristotle and St. Thomas, in reference to psychic functions, is of biological origin. Not only in his commentaries on the psychological works of Aristotle but also in his own most personal works, St. Thomas stresses this comparison. Terms such as union, conception, offspring, are so commonly applied to the sphere of understanding that their original

²² ". . . sed intelligens et intellectum, prout ex eis est effectum unum quid, quod est intellectus in actu, sunt unum principium hujus actus qui est intelligere." *De Ver.*, 8. 6c., (Marietti ed.) III, 177.

²³ St. Thomas sums up what I have called the first and second moments, in these words: ". . . in quantum scilicet ad hoc quod intelligibile uniatur intellectui, requiritur actio vel passio; actio quidem secundum quod intellectus agens facit species esse intelligibiles actu; passio autem secundum quod intellectus possibilis recipit species intelligibiles . . ." *Ibid.*

²⁴ That is the force of Cajetan's remark (*loc. cit.*): ". . . actiones immanentes qualitates sunt, non actiones aut passiones." It is better not to speak of immanent actions, then. Rather, we should say immanent operation.

²⁵ *In III de An.*, lect. 12, (Pirotta ed.) #766; and *De Div. Nom.*, 4. 7, (Mandonnet ed.) II, 372.

²⁶ *Sum. c. Gent.*, IV. 12-13, (Marietti ed.) pp. 438-441.

²⁷ *De. Pot.*, 2. 1c., (Marietti ed.) I, 21.

²⁸ *1. Sent.*, d. 13. 1. 1-3, (Mandonnet ed.) I, 301-309; *De. Pot.*, 10. 1c., (Marietti ed.) I, 300; *S. T.*, I. 27. 1c.

significance needs re-emphasis. As an instance of this, we may take a passage from a work which has nothing to do with natural science.²⁹ The *Compendium Theologiae* gives us, first, an explanation of reproduction in the human species. The father is the agent and the mother is the patient, in terms of the theory of potency and act. The offspring is the product of their union. So also, in the intellectual realm, there is a conception. Here the intelligible thing is like an agent and the intellect is like a patient. When the thing-known is something other than the intellect, then the thing (*res intellecta*) is like a father to the concept (*sicut pater verbi in intellectu concepti*).³⁰ In this case, the operation is not wholly immanent because some of the agency producing the concept comes from the extra-intellectual sphere. However, where the intellect understands itself, we have the best example of immanence in man's operations. Here, the intellect is father to the concept.³¹ This operation, in which the intellect generates a concept of itself, is the nearest approach that we have in man's operations to that divine generation, or procession, of the *Verbum Dei* from the Father. There are two points of difference. The human *verbum mentis* is not identical with the essence of the intellect; and there is a real distinction between the potency and the operation, in human intellection. In divine generation, there are no such real distinctions; hence, there is absolute immanence.

It is still necessary to admit that the third moment in simple apprehension must remain something of a mystery. Meditation upon its remote resemblance to biological procreation, will cast some light upon it. But it must be remembered that we do not understand fully the biological operation whereby a new life comes into being. Biology, too, has its mysteries. Nor is it a matter of surprise that its theological analogate, the Incarnation of the God-Man, must remain a Mystery in the supernatural order. It is not pessimism but realism to say that man on earth will never wholly understand how he comes into being, how his concepts come into intentional existence, or finally, how it has been made possible for man to live a supernatural life through the generation of the *Verbum Dei*.

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²⁹ *Compendium Theologiae*, cc. 37-41, (Mandonnet ed., *Opuscula Omnia*) II, 19-21. There are many similar passages elsewhere. See: *Sum. c. Gent.*, IV, 11, (Marietti ed.) p. 438; and *De Rationibus Fidei ad Cantorem Antiochenum*, c. 3, (Mandonnet ed., *Opuscula Omnia*) III, 254-255.

³⁰ *Comp. Theol.*, c. 39, (*op. cit.*) p. 20.

³¹ "Quando intellectus intelligit seipsum, verbum conceptum comparatur ad intelligentem sicut proles ad patrem." *Ibid.* Cf. *De Pot.*, 2. 1c., (Marietti ed.) I, 21-22.

THE FOUNDATIONS OF MECHANISM

TO ISOLATE the germ of a disease is to go a long way towards finding a cure. Mechanism has infected the modern sciences since their birth. Scholasticism has been trying to cure the modern sciences of this disease, but too often scholastic philosophers fail to administer a specific because they have not seen clearly the germ of mechanism. We shall endeavor to show that the germ of mechanism is Eleatic metaphysics and not experience; it is an inability on the part of philosophers and scientists to make intelligible to themselves real "coming to be," because of a faulty metaphysical conception of "what is." Our approach shall be philosophical and historical with special emphasis on Eleatic metaphysics, ancient atomism, and a seventeenth century exponent of mechanism, Thomas Hobbes (1558-1679). We have chosen Hobbes, because in the words of Frithiof Brandt, Hobbes is

a philosopher of mechanism in a strict unsurpassed sense. Hence his significance in the history of philosophy is both symptomatic and paradigmatic. Hobbes is symptomatic in so far as from the point of view of philosophy he gives the clearest and most consistent expression to the mighty mechanical current which more than any other characterises the initial period of modern philosophy. And Hobbes is paradigmatic in so far as no later attempts at a mechanical system have surpassed him *in principle*. This applies both to the French materialism of the eighteenth century (La Mettrie and Holbach, who were direct pupils of Hobbes), and to the German materialism of the nineteenth century (Büchner, Moleschott, Vogt). As long, therefore, as a history of philosophy and a mechanical conception of nature exist, the philosopher of Malmesbury will not be forgotten. He was the first pioneer of the mechanical conception of nature in modern times.¹

THE FUNDAMENTAL PROBLEMS OF NATURAL PHILOSOPHY

The systems of natural philosophy which have arisen in the course of centuries from the earliest Greek philosophers to such originators of modern philosophy as Descartes and Thomas Hobbes have been most varied, but the fundamental problems which have vexed the minds of ancients and moderns have been the same. The systems are many and confusing; the problems are few and, at least as problems, clear. It is to the study of the problems, then, that we must turn if we wish to understand the inter-relations of the systems, for the varied systems have been initially and logically determined by the answers which individual philosophers have given to these same persistent problems.

Philosophy begins in wonder. Philosophy begins when we first realize that things are not always what we think they are, because we

¹ Frithiof Brandt, *Thomas Hobbes' Mechanical Conception of Nature* (Copenhagen, 1928), pp. 381-382.

discover real or apparent contradictions in what we think of things. This constitutes a problem and its solution requires reflection or a turning back upon the steps in our direct and spontaneous processes of mental activity which have led us to thinking of the universe in these contradictory ways.

Hence the construction of systems of philosophy is the work of reflective and deliberate mental activity and supposes the knowledge of the existence of ourselves and of a universe around us acquired by direct and spontaneous exercise of our mental faculties. The natural philosopher must begin with the universe, the existence of which is the common and ineluctable conviction of all men. We are all convinced of the existence of the universe—the sun, the moon, the stars, the earth, and on the earth, of men like ourselves, of animals, plants and inanimate things. We are also convinced of the abiding identity, in some sense, of that universe throughout the years; and on the other hand, we are also convinced that, in some sense, it has changed and is changing. This is an apparent contradiction and constitutes one of our first problems—the problem of identity and change. Similarly, we are also convinced that in some sense the universe is one and that in some sense the universe is not one but many. This also is an apparent contradiction and constitutes a second problem—the problem of unity and multiplicity of the material world. We are also convinced that the parts of the universe are in some sense homogeneous and in some sense differentiated, and this also is an apparent contradiction and forms a third problem—the problem of similarity and difference.

The most basic of these problems, at least from the point of view of understanding the historical development of natural philosophy, seems to be the problem of change, the apparent contradiction inherent in the fact of change. For it is easy to see that our understanding of the static heterogeneity or differentiation of bodies in the material universe will be conditioned on the solution we give to the problem of change; for the specifically different bodies of every-day experience have *come to be* what they are; they are subject to change; and if real being is incapable of change the heterogeneity which characterises the bodies of experience which are terms of change *must* be only apparent. The same can be said of the one and the many; for the one and the many which by sense experience we distinguish in the material universe are also the terms of change, and hence their explanation will also be dependent upon the solution we have given to the problem of change.

Faced with these apparent contradictions we can do many things. We may deny the validity of the principle of contradiction and then the problem needs no solution, but then *knowledge itself becomes meaningless*. Or admitting the validity of the principle of contradiction, we can apply ourselves more closely to the study of the problem

until we can distinguish both sides of the apparent contradiction and come to see that what is affirmed in one is not what is denied in the other. Even a superficial knowledge of the history of natural philosophy will convince us that the variety of systems of natural philosophy are determined by the variety of fundamental positions which natural philosophers have taken in solving these three problems—especially the first, the problem of identity and change in the universe of material being.

ELEATIC METAPHYSICS AND THE SOLUTION OF ANCIENT MECHANISM

In ancient times Parmenides (circa 540 B.C.),² the chief representative of the Eleatic school of philosophy, solved these problems in a radical manner. The three contradictions are: (1) The universe is one; the universe is not one but many. (2) The universe remains identical with itself; the universe does not remain identical with itself, but changes. (3) The universe is homogeneous in nature; the universe is not homogeneous in nature, but differentiated. Parmenides solves the problems by denying the second members. The universe is one, unchanging, homogeneous; such is the true judgment of the intellect. The many, the changing, and the heterogeneous are the pure deception of sense.

Let us follow the main outlines of his approach to such a solution. He enunciates his first epistemological principle thus: «τὸ γὰρ αὐτὸν νοεῖν ἔστιν τε καὶ εἰναι;»³ “the same can be thought and can be” or “that only can be which is conceivable.” This can be understood from the current expression: “such a thing is inconceivable!” meaning that it is impossible because unintelligible.⁴ This is a principle which has dominated the whole history of philosophy and was expressed by the Scholastics under a variety of forms, such as: *Omne ens est verum; omne ens est intelligibile; ens et verum convertuntur*. This is to say, being as such is intelligible. Moreover it is a valid principle, but misunderstanding may arise from two sources. One source is the identification of “to imagine” and “to understand”; for then it would mean that only what can be imagined can exist. This would be a rather simple way of making the existence of God impossible.

Another source is the identification of “to be adequately intelligible in itself” and “to be adequately intelligible for our human intellects”; for then it would mean that only that which we can adequately understand can exist, which would make the *human* intellect and not the divine intellect the measure of the truth or intelligibility of things. Parmenides, as Hobbes and Descartes and many others much later,

² The sketch of the doctrine of Parmenides and the ancient Atomists is dependent upon the scholarly treatment of P. Hoenen, S.J., in his article: “De Indole Metaphysica Mechanicismi,” Gregorianum, X (1929), 210-237.

³ H. Diels, *Die Fragmente der Vorsokratiker* (Berlin: 1922), I, N. 18 B, fr. 5.

⁴ Cf. “De Indole Metaphysica Mechanicismi,” P. Hoenen, *art. cit.*

makes these fatal identifications and thus determines logically the rest of his natural philosophy.

From his first epistemological principle flows his first ontological principle: "Being is, non-being is not"; for "what is" can be thought of, non-being cannot be thought; and since he identifies "to imagine" and "to think," his ontological principle is equivalent to: "the 'full' is, vacuum is not." What exists is then one continuously extended thing.

Since the concept of being for Parmenides is univocal, real being cannot be heterogeneous or differentiated, for it would have to be differentiated by non-being which is not. What exists is absolutely homogeneous.

"What is" is unchanging. Aristotle puts the argumentation of Parmenides and the Eleatics in the form of a dilemma:

So they say that none of the things that are either comes to be or passes out of existence, because what comes to be must do so either from what is or from what is not, both of which are impossible. For what is cannot come to be (because it is already), and from what is not nothing could have come to be (because something must be present as a substratum).⁵

It was from such a conception of "what is"—being—and from his inadequate formulation of the principle of the intelligibility of being, that Parmenides concluded logically to his interpretation of the universe as one extended, continuous, undifferentiated and unchanging being. Such is the *plenum* of the Eleatics. Identity is the true judgment of the intellect, change is the deceitful judgment of sense.

The solution of Parmenides could not long hold the field, for the evidence of the senses for change in the universe was too strong; and besides, if the senses were deceived there was nothing in the nature of objective things which could account for the apparent wealth of multiplicity, differentiation and change which the senses reported. A reason must be given for the phenomena of multiplicity, differentiation and change, while admitting that being itself is intrinsically one, undifferentiated and intrinsically immutable, since the dilemma of Parmenides seemed unanswerable. The unique *plenum* of Parmenides must be shattered into fragments by the admission of the existence of extended non-being as well as extended being, of the empty as well as the full. Real being, though extended, is indivisible (because unchangeably one), undifferentiated, and intrinsically immutable, but it is not unlimited in extent nor *unique*, but limited, and multiple, and interspersed with non-being or the void. All that really exists are atoms (real beings) and the void (non-being). All static variety is reduced to variety of shape and groupings of that which is intrinsically homogeneous, one, extended, yet indivisible. The possibility of apparent

⁵ Aristotle, *Physica*, I. 8. 191a26 sqq., trans. Hardie and Gaye, ed. Ross (Oxford: 1930).

change arises from the possibility of local motion and hence of the rearrangement of atoms. The wealth of change is reduced to the local motion of immutables.

This was the first mechanistic interpretation of the universe; the first attempt to reduce all the changes of material beings as well as their simultaneous specific differentiations to the least common denominator of extended undifferentiated matter and local motion. Nothing really exists but atoms and the void. While admitting the Eleatic metaphysics which concluded to the impossibility of intrinsic change (even that implied in division of extended being), and the impossibility of real simultaneous differentiation, it strove to give a reason for the *appearances of change to sense*; in the language of the Atomists: "to save the phenomena."

As an example of the system, we shall sketch the system of Leucippus and Democritus. The unique correction which these philosophers make in the Eleatic metaphysics is as we have said: the admission of the existence of extended non-being (the void) as well as being. As Plutarch reports it: "the non-matter exists no less than matter."⁶ By this they meant the empty-of-body, or vacuum, was objective as well as body or extended being.⁷

It is easy to see what the rest of their explanation is going to be. The 'full' is not unique but many: the atoms. They are limited in extent by the surrounding void. Since the void offers no resistance to motion through it, motion of the atoms can be conceived; they can congregate and they can separate; they can spin and turn, and all without the necessity of admitting intrinsic change or qualitative differentiation; the phenomena of unities which are differentiated and which change are all due to the variety of positions and groupings of these immutables, variety resulting from the variety of local motion. There is a reason for appearances; there is some reason for the deception of sense in the universe of the Atomists, whereas there was none in the Eleatic universe. But the point to notice is that the 'atom' of Leucippus and Democritus is nothing but the universe of Parmenides on a small scale. Their atoms are nothing but the multiplication of what Parmenides and Melissus held the whole universe to be. They can easily grant the contention of Melissus: "if the 'many' existed, they would have to be such as I say the 'one' is."⁸

Another point to notice is that they, consistently with their metaphysical principles, deny the possibility of division of the real extended being (the atom), as well as the possibility of the union of two such beings into one real one.⁹ In this they show themselves to have a

⁶ Diels, *op. cit.*, II, 55 B, fr. 156; cf. Aristotle, *Metaphysica*, I. 985b4 sqq.

⁷ Diels, *loc. cit.*

⁸ Diels, *op. cit.*, I, 20 B, fr. 8.

⁹ Cf. Aristotle, *De Generatione et Corruptione*, I. 8. 325a34; *De Coelo*, III. 4. 303a5; *Metaphysica*, VII. 13. 1039a5.

better understanding of the nature of real being than Hobbes and Descartes later, who, while holding the impossibility of real becoming, admit as possible, in fact necessary, real divisibility of real being.

SEVENTEENTH-CENTURY VERSIONS OF MECHANISM

The essential position of mechanism has not changed much since the ancients, with but one exception, Hobbes and Descartes, the two seventeenth century revivers of a mechanistic interpretation of the universe, implicitly deny any intrinsic objective unity to extended being, inasmuch as they both teach the indefinite divisibility of extended being, while denying the possibility of intrinsic change. It was this intrinsic unity of extended being which caused the atomists to introduce extended non-being or the void to make possible the motion of indivisible atoms as the first step in saving the phenomena of change.

For Hobbes and Descartes, division (multiplicity from unity) does not constitute an intrinsic change and hence there is no necessity for the extended non-being or void to make possible the motion of immutable beings. The parts of immutable being can move with respect to each other. This motion becomes the principle of multiplicity, the locally moving part becoming distinct from the non-moving part by reason of its motion. According to these philosophers, the extended does not offer resistance to division, and the instrument of division and consequent distinction is local motion.

The only intrinsic property of extended being is impenetrability which is not conceived as a quality but as identified with extension, whose concept seems to imply the necessary extrapolosition of extended parts. No two parts of extended being can occupy the same place at the same time, and hence any motion of one part involves the motion of the next part into whose place the first is going to move; since the universe is conceived as a *plenum* and infinite in extent, this can only take place if the motion as a whole is circular, so that the last thing moved finally moves into the place of the first thing moved and that at the same instant of the first motion.¹⁰ Hobbes sometimes speaks as though the motion of any one part communicates itself to the rest of the universe.¹¹

It is clear that in such a system local motion cannot be initiated by any non-moving part of the extended *plenum*; the totality of local motion in the system must have been put into it by the Creator of the system, or have been in it from eternity. The supposition, however, is that it can be redistributed, for it is the new appearance of motion in parts formerly at rest which alone is admitted as a reason for the apparent changes in the universe. How this redistribution is possible

¹⁰ *The Complete Works of Thomas Hobbes of Malmesbury*, ed. Sir. William Molesworth (London: 1839-1845), *English Works*, I, 344; *Latin Works*, I, 280. For convenience Hobbes' *English Works* will be referred to by E. and his *Latin Works* by L.

¹¹ E., I, 342; L., I, 278.

is not at all clear without admitting in bodies differentiation other than that arising only from local motion. While the motion of bodies with which we are familiar can be varied by suffering impact with other bodies, by friction, by exercise of gravitational, electrical and magnetic forces, it must be remembered that in the philosophical systems which we are considering, density, cohesion, viscosity, friction, electrical, gravitational and magnetic forces themselves, could be only manifestations of motions of the parts of an absolutely undifferentiated extended being. All the differentiation of the human body and its parts, even the senses and the brain, is entirely to be reduced to this dog-following-his-tail motion of the undifferentiated parts of this same extended being.

There is great play for the imagination, for you can vary it without limit. There is no limit to the size of the parts whether in littleness or in bigness that you can imagine as having a part in the movement,¹² but you can never imagine it as moving by itself, since it necessarily forms part of a circular chain which is moving round as a whole. Again there is no limit to the variety of ways in which the motions can be compounded, but if you start with extension and local motion, no matter how much you move the parts of the extension and extend the variety of the motion, you only have complicated motions of extension and not the universe with which we are familiar. Above all there is no explanation why some of these moving chains are to be identified with consciousness and sensation, and intellection, as Hobbes would have us believe,¹³ or why certain inextended beings localized definitely at certain points should be stimulated to consciousness and knowledge by this mere movement of extended parts, as Descartes would have it.¹⁴

In order to understand the fundamental difference between the general philosophy of Hobbes and Descartes, we must take note of an essential distinction. Thomas Hobbes identifies real being with body or extended substance precisely as extended (that is, considered as extended and positively considered as not having any other intrinsic determination).¹⁵ The reason is that he identifies real being with the object of the imagination; that is, with being which can be represented by the sense.¹⁶ For the sense, only that which is extended can be represented as an existing thing; the non-extended exists for sense knowledge only as a limit of a kind of extension: the point, which is not an existing thing. For Hobbes, what is not extended does not exist. This is a distortion of the scholastic principle that being is intel-

¹² *E.*, I, 446, 447.

¹³ *E.*, I, 389, 390.

¹⁴ Descartes, *Opera*, ed. Adam et Tannery (Paris: 1904), vol. VII, p. 79. 6 sq.

¹⁵ *E.*, III, 672.

¹⁶ *E.*, I, 411.

ligible, or that only the thinkable can exist. As we have seen, there are two notable distortions of this principle: one of identifying the imaginable with the thinkable; the other, that being should be perfectly intelligible to the *human* mind. The latter comes from forgetting that the human intellect is not supreme in the order of intelligences; and that things may be intelligible in themselves but not clearly and perfectly intelligible by us. Our intellects are not the measure of things, but things are the measure of our knowledge, and only those things can measure or determine our knowledge which in some way are contained in or are the terms of a relation of material extended things; because our intellects derive the object of their immediate knowledge through the senses.

Descartes on the other hand does not identify real being with extended being; but he also cannot transcend the object of the imagination; and since the only thing non-extended which we find in sense knowledge is, according to Descartes, a point (which is the non-extension of a privation), the non-extended beings of Descartes must have their existence in a point. It is as if one would argue that if there can exist a being which has no sound, it must be identified with silence as such; or if a being can exist without color, it must be identified with the negation of color.

The philosophical doctrine of these two in regard to the material universe in its totality is reducible to extended being and motion. The universe is an extended *plenum*, and the differentiation, multiplicity and changes which appear to us are due solely to a variety of motions in the parts of that extended *plenum*. Paradoxically, the identity, unity and similarity of the extended substrate is not something perceptible by sense; the identity, unity and similarity which is perceived by the senses is only apparent, and is due to certain aspects of hidden motions.

HOBBS' SOLUTION TO THE PROBLEM OF CHANGE

When we say a living creature, a tree, or any other specified body is *generated* or *destroyed*, it is not to be understood as if there were made a body of that which is not-body, or not a body of a body, but of a living creature not a living creature, of a tree not a tree, etc. that is, that those accidents for which we call one thing a living creature, another thing a tree, and another by some other name, are generated and destroyed; and that therefore the same names are not to be given to them now, which were given them before. But that magnitude for which we give to anything the name of body is neither generated nor destroyed. For though we may feign in our mind that a point may swell to a huge bulk, and that this may again contract itself to a point; that is, though we may imagine something to arise where before was nothing, and nothing to be there where before was something, yet we cannot comprehend in our mind how this may possibly be done in nature. And therefore philosophers, who tie themselves to natural reason, suppose that a body can neither be generated nor destroyed, but only that it may appear otherwise than it did to us,

that is, under different species, and consequently be called by other and other names; so that that which is now called man, may at another time have the name of not-man; but that which is once called body, can never be called not-body. But it is manifest, that all other accidents besides magnitude or extension may be generated and destroyed; as when a white thing is made black, the whiteness that was in it perisheth, and the blackness that was not in it is now generated; and therefore bodies, and the accidents under which they appear diversely, have this difference, that bodies are things, and not generated; accidents are generated, and not things.¹⁷

This passage is very interesting from our point of view, because in it Hobbes discusses professedly the problem of change in the material universe. He comes to the conclusion that body is intrinsically immutable; that it is the *accidents* of body which are generated and perish, and that, since we cannot comprehend in our mind how something can arise from nothing and nothing from something, body alone is real being, accidents are not real beings.

Hobbes calls attention to the fact that in all changes of material beings, in both terms of the change (*a quo* and *ad quem*), we find an extended substance; hence we can call each term of the change *body*.

Generation: not-tree becomes tree

Destruction: tree becomes not-tree

But never: not-body becomes body; or body becomes not-body.

Since both tree and not-tree are bodies, it is according to Hobbes accidental to body to be a tree or not-tree; being a tree or being a man is then an accidental determination of extended substance as such, and since the proper *passiones* of extended substance as such are to be divisible, to have figure and to move locally, all differentiation and change are to be considered as pure phenomena or appearances, to which there correspond in the real world only local motion of parts of extended being and resultant division and figure.

For Hobbes the substrate of change is *body*; but what meaning are we to give to this word? He tells us elsewhere:

Body . . . is that substance which hath magnitude indeterminate and is the same with corporeal substance; but a *body* is that which hath magnitude determinate and consequently is understood to be *totum* or *integrum aliquid*. . . . Matter is the same with *body*; but never without respect to a *body* which is made thereof.¹⁸

The substrate in itself is, then, an existing thing, indeterminate only with respect to such extrinsic determinations as figure, motion, and the like; in fact, it is the only existing thing, for as he says: "bodies, and the accidents under which they appear diversely, have this difference, that bodies are things, and not generated; accidents are gen-

¹⁷ E., I, 116, 117; L., I, 103.

¹⁸ E., IV, 309.

erated, and not things."¹⁹

The whole position resolves itself into the inability to make intrinsic change or becoming *intelligible*. And this in turn is rooted in a confusion of the various meanings of body.²⁰ Hobbes identifies the term *body* taken as a genus of substance and taken as signifying a complete substance, whose only perfection is to have magnitude. If the intrinsic reason why a particular body is body may not also be the intrinsic reason why it is of a specific nature, then whatever determines a particular thing to a specific nature does so accidentally, and all generation and corruption becomes accidental, since it must leave the subject of change a determinate existing thing.²¹

We find ourselves back to the ancient metaphysics of Parmenides and the Eleatics, who denied the possibility of all multiplicity, all differentiation and all intrinsic change, relying on the principle: "Being is, non-being is not."²² Since being cannot differ from being *as being*, nor differ *as non-being*, being is unique and undifferentiated; nor can being ever change, for this would involve new being; but being cannot become, as shown by his dilemma reported by Aristotle:

So they say that none of the things that are either comes to be or passes out of existence, because what comes to be must do so either from what is or what is not, both of which are impossible. For what is cannot come to be (because it is already), and from what is not nothing could come to be (because something must be present as a substratum).²³

¹⁹ *E.*, I, 117.

²⁰ According to Hobbes, a body is a real being, extended, subsistent *per se*, and a supposite or subject of extension and all other determinations, known as such by reason, not sense (cf. *E.*, I, 101; *L.*, I, 90, 91). He confuses (a) the notion of real being (or that which can be independently of our thought though not necessarily independently of a subject of inhesion or information) with the notion of subsistent being (*subsistens in se*, or that which exists in itself and is a complete substance); (b) he confuses the notion of extended being—that is, that which is extended either *per se* or *per accidens*—with the notion of extended substance, or body in the genus of substance; (c) he confuses the notion of existing being with spatial or extended being (cf. *De Corpore*, VII, 2; *L.*, I, 83); (d) he confuses the notion of subject with the notion of substance—whereas, although a substance may be the subject of accidents, the formal concept of substance is of a being "cui debetur esse in se et non in alio" (cf. L. de Raeymaeker, *Metaphysica Generalis*, Louvain, 1935, I, 175 sqq.). Now, a *body* may mean (1) a genus of substance (cf. *S. T.*, I, 18, 2c.); (2) a species of quantity (cf. St. Thomas, *De Ente et Essentia*, c. III, ed. Boyer, Rome: 1933, p. 19; cf. also *S. T.*, I, 7, 3.); (3) a complete substance having only the perfection of extension (cf. Suarez, *Disp. Met.*, XIII, Sec. III, n. 5, ed. Berton, Paris: 1857, p. 403); (4) a part of a complete extended substance (cf. *De Ente et Essentia*, loc. cit.). It is because Hobbes identifies the term *body* taken as a genus and *body* taken as signifying a complete substance that he necessarily must give a mechanistic interpretation to the static differentiation of bodies and to the successive changes in the universe. Why this follows is well explained by St. Thomas, commenting upon an analogous position of Avicenna in *S. T.*, I, 66, 2c.

²¹ Cf. St. Thomas, *S. T.*, I, 66, 2c.

²² Diels, *op. cit.*, I, 18 B, fr. 6, v. 1-2.

²³ Aristotle, *Physics*, I, 8, 191a23-24.

Is this not the precise argument of Hobbes? There is no intrinsic differentiation of bodies, nor intrinsic change of bodies; for bodies do not differ as bodies, and bodies do not come to be because they already are bodies and remain bodies.²⁴ And it is for this reason that he was lead to study motion in order that he might explain "how it comes to pass, that things when they are the same, yet seem not to be the same (to the sense), but changed."²⁵

SUMMARY

To this point, we have said that the problem of change, the apparent contradiction inherent in the fact of change, is the most basic of the problems confronting the natural philosopher, and that historically the solution of this problem has been the leading factor in the development of philosophies of nature. While noting the differences between ancient and modern mechanisms we have maintained their essential connection with the problems of Eleatic metaphysics. The particular solution given by Hobbes to the problem of change we have shown to be conditioned by his concept of body as of a complete, existing substance, the unchanging substrate of all "change." With Hobbes, becoming or intrinsic change is not made intelligible, it is explained away.

In the second part of this article we shall study Hobbes' failure to make intrinsic change intelligible in connection with his understanding of the solution proposed by Aristotle. We shall then be in a position to trace out the inner relations of mechanist metaphysics with the mechanist solution to the problem of change.

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(To be continued)

²⁴ *L.*, I, 263, 264.

²⁵ *E.*, I, 71; *L.*, I, 64.

NOTE ON THE THOMISTIC INTERPRETATION OF COMPLEX INDIVIDUAL BODIES¹

AS THE DOCTRINES of natural philosophy become more detailed and scientific experiment becomes more profound, the common character of the subject matter of natural philosophy and science, corporeal being, becomes more evident, as does also the necessity of harmony between the interpretation of that subject matter by ultimate principles and the scientific interpretation by proximate principles. Since truth is one this harmony must exist between true science and true philosophy, and it is on this harmony that the real relation of mutual helpfulness between science and philosophy is based. Philosophy can be of help to the scientist inasmuch as its fundamental principles can direct him in his experimentation and indicate the presence of error. Science in turn can be of aid to the philosopher inasmuch as more exact experiments give further examples of the universal application of philosophical principles and serve as an occasion for the detailed elaboration of those principles. In actual practice, however, this ideal hand-in-hand progress of philosophy and science is often marred by the individual shortcomings of philosopher and scientist, each shamefully ignorant of the work of the other, who by their mistaken conclusions give rise to the impression that there exists a contradiction between philosophical doctrine and scientific findings, and that "never the twain shall meet."²

The conviction that there is no satisfactory philosophical interpretation of the tangible realities discovered by scientific experimentation naturally leads to a complete divorce of science and philosophy. Hence the all too prevalent view in our modern practical minded world that philosophy is altogether a matter of imaginative and subjective speculation. At best there results the view that there are two truths, quite independent and usually contradictory, the truth of philosophy and the truth of science. Naturally, this view carries over into the field of human values and the practical conduct of life, so that philosophy finds no place in the problem of human action and is left rather contemptuously to the impractical speculations of the idle dreamer. If this view be true, the efforts of modern educators to integrate the manifold aspects of science and culture by means of the fundamental principles of philosophy are doomed to failure.

THE PROBLEM OF THE COMPLEX INDIVIDUAL BODY

Modern developments in Physics and Chemistry have brought to light many hitherto unknown details about the behavior of electrons, atoms, and molecules, and the rest of the submicroscopic entities now

¹ To translate the Latin term: "mixtum, unum per se."

² Cf. Maritain, *An Introduction to Philosophy* (New York: Sheed & Ward, 1939), ch. 6.

familiar to the practical and theoretical scientists. The question naturally arises whether these are individual bodies, possessed of essential unity, or only a variety of accidental combinations, differing only in degree, of a single or a few species of ultimate components which are themselves the only real individual bodies. The question then is whether an individual body is necessarily simple or whether there are also complex individual bodies.

Although our own personal conviction is to the effect that scientific experiment indicates the existence of true complex individual bodies in the atom and molecule and that the scientific facts are in perfect harmony with the doctrine of Hylemorphism, we have no intention of proving the point in this brief note. Our sole purpose is to indicate the elements of the problem and some principles that must be applied to avoid the unphilosophical and unscientific contradiction that has too often been voiced by individual philosophers and scientists.⁸

DIVISION OF THE PROBLEM

The confusion of distinct problems as a rife source of error and misunderstanding has had its place in the present question, resulting in that absurd situation of a philosopher attempting to draw a scientific conclusion from philosophic principles and a scientist insisting that philosophic doctrine be based on scientific experimentation. In the present question there are three problems which, though closely interrelated, are nevertheless quite distinct one from the other.

(1) The philosophical "theory" of the complex individual body. This is a problem concerning the metaphysical possibility of such a being and its explanation according to metaphysical principles. This is a problem for the philosopher alone.

(2) The scientific "facts" concerning what might show itself to be a complex individual body, for example, the atom, the molecule. This is the field of scientific experimentation and hypothesis.

(3) The linking of philosophic "theory" and scientific fact and hypothesis in a single harmonious explanation of the complex individual body. The solution of this third problem, which is the major one, will require knowledge of both science and philosophy.

THE PHILOSOPHICAL PROBLEM

For the philosopher who holds the doctrine of matter and form this is altogether a question of whether an individual body can have more than one substantial form. From the unity and character of its

⁸ As an example of this error on the part of the scientist, cf. Sir James Jeans, *Physics and Philosophy* (New York: Macmillan, 1943), reviewed in this issue. As an example of this error on the part of the philosopher, cf. Descoqs, *Essai Critique sur l'hylémorphisme* (2nd ed.; Paris: Beauchesne, 1924). For a splendid statement of the correct attitude, cf. Petrus Hoenen, *Cosmologia* (Rome: Gregorian University, 1936), "Praefatio."

operation the living being is seen as an individual body, not simple, but complex. The substantial form, as giving the first "to be," is of necessity single in any individual body, be it simple or complex. For the Thomistic philosopher this question of the unicity or plurality of forms is not a disputed one. The very definite texts of the Angelic Doctor on this point are found throughout all his works and many of them are familiar to anyone at all acquainted with St. Thomas' writings.⁴

Let it be noted that we are considering the complex individual body only in the anorganic kingdom and not in the realm of living beings, though the procedure would be the same in both cases. As regards then the anorganic complex individual body the philosopher does not declare that such a body exists, but only lays down the metaphysical principles which explain the intimate character of the being of such a body, first of which is the fact that it can have but one substantial form. Further speculation on this (possible) complex form yields the knowledge that this form, as superior to the simple forms from which it has its origin, will have, as part of its requirements in the way of dispositions of matter, all that was required by the lower forms, at least equivalently, and something besides.⁵ This is that detail of the hylemorphic doctrine which declares that the forms of the elements are contained "virtually" in the complex individual body. Further elaboration and explanation of the doctrine is needed to obviate the misunderstandings to which this simple expression of it is likely to give rise. The complex individual body has only one form. Hence, the forms of the simple individual bodies, or elements, from which it arose by substantial change are not there actually, but only in potency; or rather, the complex individual body is itself in potency to becoming the elements by substantial change. This potency, however, is not the indeterminate potency of prime matter, pure potency, but a potency in part determined, or more proximate to these certain elementary forms rather than to any others. This proximateness or determination of the potency is due to the fact that the elementary forms and the complex forms, close neighbors in the scale of being, require in part the same dispositions of matter, so that the matter as under one form already has some of the dispositions required by the other form.

Considering now the powers or manifestations ("virtutes") of the two forms, elementary and complex, these will have a certain similarity, again by reason of the partial similarity in the required dispositions of matter. Thus, the complex form will present some manifestations which will be similar, or even identical with the manifestations of the elementary forms. Nevertheless, these manifestations, though seemingly the same will not be really so, because in one case their

⁴ Cf. e.g. Opusc. XLII, *De Pluralitate Formarum*; Sum. c. Gent., II. 58.

⁵ Cf. e.g. S. T., I. 76. 4c; *De Spiritualibus Creaturis*, a. 3.

source is the elementary form, in the other, the complex. They may be said to be specifically, or observationally the same, but numerically different, or different in their principles.

These and further details elaborating the philosophic doctrine concerning the complex individual body are to be found in the writings of St. Thomas and his followers. They furnish us with the metaphysical "rules" which govern the intimate being of any complex individual body. Should such a complex individual body be found in the anorganic world, it should conform to these "rules." It is important to note that philosophy has made no attempt to establish the *fact* of a complex individual body in the anorganic world; it has limited itself, as it should, to establishing and elaborating the necessary laws of the being of such a (possible) body.

THE SCIENTIFIC FACTS

Even in its most elementary stages, long before the advent of atomic and sub-atomic experimentation, science has recognized and acted upon the difference existing between what is now known in Chemistry as a mixture and a compound. That difference is obvious and scientific progress has only served to emphasize it. The chemical compound, in contradistinction to the chemical mixture which is clearly a mere conglomeration of distinctly existing elements, is a fine candidate for the title of complex individual body. Still, the common and scientific fact of difference does not warrant a conclusion to the essential character of this difference. Indeed, many a scientist and philosopher has used those same scientific facts as a confirmation of the very opposite view, that the compound presents only a more complex and intimate form of accidental unity. The scientific facts are unassailable, established by successful experimentation, and the philosopher would stultify himself should he call them into question. What calls for further examination is the interpretation of those facts.

SCIENTIFIC HYPOTHESIS

The task of theoretical science is to elaborate an hypothesis to explain the facts of experimentation. If the established facts and laws can be drawn as a conclusion from the suppositions of the hypothesis, that hypothesis is then accepted as a true interpretation of reality. Scientists have elaborated such hypotheses to explain the facts and their conclusions have coincided with the facts. Now these hypotheses take as their starting point the supposition that the elements are present in the compound as actual and individual, and the claim is made that the essential unity of the compound is thus disproved. But a correct critical examination of the "syllogism" by which the conclusion is drawn from the suppositions of the hypothesis to the experimental facts and laws does not involve as a necessary element the supposi-

tion that the elements are actually present. Precisely the same conclusions follow when the opposite supposition of hylemorphism, the *virtual* or potential presence of the elements is substituted for the atomistic supposition of *actual* presence. This supposition regarding the virtual or actual presence of the elements in the compound and the consequent essential or accidental unity of the compound is a philosophical one, dealing as it does with the intimate character of the being considered. Analysis of the scientific hypothesis shows that it prescinds from this question and thus offers no solution for it. The scientific hypothesis is purely scientific, as it should be, and independent in its origin from any philosophical interpretation.

Let it be noted once again that we are merely indicating the procedure of critical examination that must be employed, and has been employed on certain scientific hypotheses,⁶ if the truth of the matter is to be discovered. The error is made by those philosophers and scientists who think that the scientific facts and hypotheses are founded on philosophical doctrine. Science is not dependent on philosophy in the sense that its facts and hypotheses can be deduced from philosophical principles. The philosopher has a right to be heard on this problem only inasmuch as he may apply the laws of logic and criticism to point out an incomplete generalization in the formulation of a scientific law, or the presence of non-essential elements in a scientific hypothesis. As yet there is no answer to the question whether the compound has essential unity and is therefore a complex individual body.

SCIENCE AND THE PROPERTIES OF THE COMPOUND

Though the facts and hypotheses of science are not founded on a philosophical interpretation of the compound as having either essential or accidental unity, science can and does indicate in these same facts some important characteristics of the compound, differing from those of the mere mixture. Some of these characteristics, such as the unity of operation the compound displays, far superior to the accidental unity of a mixture, and the "new" properties observable in the compound, properties which are not successfully reduced to the combination and interaction of the properties of the elements, favor the interpretation of the compound as an individual body. Other observed characteristics seem to favor the opposite interpretation of the compound as presenting only a higher degree of accidental unity, namely the reactions of the compound which are observably identical with those of the elements, and the fact that the compound will break up into certain elements and no others. In practice and theory Science emphasizes the difference between element and compound, but this is not to say that it establishes this difference as essential. It does, how-

⁶ Hoenen, *op. cit.*, Lib. IV, c. 3, "De Mixtis Anorganicis."

ever, definitely establish the characteristics of the compound which will have to be explained satisfactorily, according to its own principles, by any philosophical doctrine which attempts an interpretation of the quality of being of the compound.

PHILOSOPHICAL INTERPRETATION OF SCIENTIFIC DATA

The materials are now at hand for the solution of the third problem, the application of the philosophical "theory" to the scientific facts. The hylemorphic doctrine stands complete in its main lines, as to the singleness of substantial form in the complex individual body and the inclusion in the requirements of that form of the powers of the elements. The scientific facts and hypothesis are established and undeniable. Are the two in harmony? If they are, then the compound may be called a complex individual body. If there appears an essential irreducible difference between the hylemorphic doctrine and scientific findings the compound must be taken as an accidental unity differing from the mixture only by its greater complexity.

The complete solution of the problem demands a careful checking of each scientific fact and hypothesis concerning the characteristics of the compound with the hylemorphic doctrine—a task which cannot be undertaken here, since our purpose is merely to indicate the general lines along which the solution is to be sought to the satisfaction of both scientist and philosopher.⁷ Those characteristics of the compound which are classed under a new and superior unity and new properties harmonize perfectly with the supposition of a single new form for the compound; the identity of some properties in compound and elements, and the definite elements resulting in the break-up of the compound are explained perfectly in terms of the partial similarity in the dispositions of matter required by the elementary forms and the form of the compound. Each detail of scientific fact and hypothesis must be thus treated, and as the scientific datum and the philosophical doctrine are more clearly and more completely understood the seeming contradictions disappear and their perfect harmony shines forth.

THE CONTRARY INTERPRETATION

The satisfactory explanation of the characteristics of the compound is still more apparent in contrast with the difficulties encountered by the opposite philosophical doctrine, atomism, which attempts to explain the compound as a merely accidental unity. Essential to this doctrine is the fact that all the characteristics of the compound must be explained as a mere interaction of elements individually existing in the compound and thus making it a more or less complex and intimate accidental whole. Though the atomistic doctrine can be and has been changed time and again in order to enable it the better to fit new

⁷ Cf. Hoenen, *loc. cit.*

scientific facts, it cannot be changed in this which is its very essence. The same process of analysis and comparison already indicated in the case of hylemorphism, as applied to ever more profound scientific findings, discovers an ever greater difficulty for philosophical atomism in explaining the scientific facts, a difficulty which develops into an increasing improbability and is finally recognised as an absolute impossibility. Ultimately atomism is forced to declare that the compound is but an accidental whole while it admits that this accidental whole does not observe the laws of accidental unity—a contradiction. Thus, negatively, the compound presents itself as an essential unity, a complex individual body.

In passing we might call attention to the fact that the scientific properties of the compound thus interpreted in the solution are properties far beyond the realm of ordinary sense observation. Some hyleomorphic philosophers have attempted to solve the question on the level of grosser sense qualities, with the result that the atomist could always insist that though the interpretation in terms of atomistic philosophy was not yet forthcoming, it might still be possible to find it. This is why the final solution of the problem of whether the anorganic compound is a complex individual body can be successfully undertaken only by one who is well versed in both science and philosophy.

VALUE OF THE PROBLEM

Attention to the problem which has just been sketchily outlined in its fundamental pattern can be of incalculable value to both philosopher and scientist. It calls for an understanding of both fields and in its solution gives the lie to the all too prevalent idea that philosophy and science are mutually antagonistic. Furthermore it offers a beautiful example of the mutual relation of helpfulness that exists between philosophy and science by which scientific experiment and hypothesis draws direction from the principles of philosophy, while philosophical doctrine finds in scientific discovery an application of its principles and an occasion to elaborate those principles in greater detail. In spite of all the seeming contradictions between science and philosophy that arise from the errors of individual thinkers, Truth is, and ever will be, one.⁸

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⁸ It is intended to pursue this subject in future issues. There will be an article elaborating the theory suggested here on the manner in which the higher form of the composite may include in its manifestations some of the characteristic properties of the elements; also, a basis for this theory will be established from various texts of St. Thomas. Another article will take up the problem of establishing a valid criterion for determining what is a complex individual body. *The Editors.*

EDITORIAL NOTES

READERS OF *The Modern Schoolman* are urged at this time, in the spirit of Dr. Sheldon's article, to give special attention to inter-school coöperation in philosophy. On the general question of Scholastic coöperation, certain factors must be well considered.

In the first place, the Scholastic must be convinced that a rapprochement is not impossible. We think a rapprochement possible on several conditions. The first condition is that the word be not taken as synonymous with complete agreement, nor as implying any obligation to compromise one's intellectual convictions. It is integral to any system of philosophy that so long as a proposition is held to be true it cannot be waived for the sake of peace.

Another condition is that the Scholastic recognize how diverse *avenues* to truth do not impair the unity of truth. There is the avenue of mathematics, of art, of prudent practical judgment; yet none of these excludes the others. "*Cognitio autem veri non est respectu omnium unius rationis.*"¹ Thus, Dr. Sheldon has shown how pragmatic verification may go hand in hand with intellectual demonstration.

A third condition is that the Scholastic moderate his inordinate fear of the error he may find in other systems. If he has really understood his own position he may confidently welcome other legitimate points of view as an integral extension of his knowledge. Eclecticism, unlike syncretism,² is a philosophic vice only when it is uncritical: that is to say, unorganic. As a matter of fact, the Scholastic stands committed to organic eclecticism (that is, to the method of synthesis); for, since his principles are universal enough to explain all the facts—of this he is convinced—these principles ought also to make room for every true explanation regardless of its origin. Again, Dr. Sheldon has illustrated this point with reference to Scholasticism and the Pragmatic method. Might we not predict the same of hylomorphism and the positive, scientific aspects of mechanism? perhaps even, with Père Maréchal, S.J., of the subject-transcending character of human intellection and the principle of immanence? It would seem that at least when a system posits contradiction at the heart of being, there is no possible alliance with Scholasticism and the principle of intelligibility. William James is an example of a philosopher who deduced from the history of thought that reality, the object of the philosopher's thought, must be radically irrational ("I prefer bluntly to call reality if not irrational, then at least non-rational in its constitution . . .").³

¹ St. Thomas, *De Virt. in Comm.*, art. 12c.

² The terms "eclecticism" and "syncretism" are used as given in Lalande (*Vocabulaire Technique et Critique de la Philosophie*: Paris, 1938), vol. I, p. 184 ("A." and "B."); vol. II, p. 851.

³ William James, *A Pluralistic Universe* (New York: Longmans, Green and Co., 1909), p. 213.

But even yet the door is not closed to rapprochement; we may ask whether such a view is really *essential* to the system. And in this instance Dr. Sheldon has shown that such a position is not essential; that in fact it is less suited to the Pragmatic method than the contrary hypothesis. These remarks do not imply the absence of dangers, possible excesses, in the project; there are such in every worthwhile movement; but will the excesses be worse than those of intransigence and exclusiveness, particularly when, as now, the genuine philosophy of St. Thomas is so widely and intimately known?

On these conditions, then, rapprochement seems not to be impossible. Further, there are a number of advantages to be gained by making the attempt.

A sympathetic study of the great non-Scholastic systems is advisable (and by *sympathetic* study we exclude that study undertaken primarily to pick logical flaws and acquire sufficient acquaintance for purposes of "refutation") in the first place because of a great fact which philosophy must explain: How is it possible, granting that the human intellect taken in itself is infallibly ordained to know the truth, that men of undoubted intellectual power have throughout the history of thought occupied the most divergent positions? Without understanding the great non-Scholastic systems in the spirit of the men who formulated them, and without understanding how these men *understood the problems* of philosophy, one cannot answer the question.⁴

A second reason why the Scholastic should study other systems sympathetically is the progress of his own system. Jacques Maritain has rightly insisted that Thomism has much to gain in this way.⁵ But not only is direct doctrinal enrichment to be hoped for; in addition, certain attitudes very useful for any philosopher will be developed—habits of self-criticism, for instance, and the irenic spirit. For a polemical atmosphere is not the most conducive to philosophic advance. When truth has rather to be "defended" than investigated and explained, there is less chance of increasing it. The philosopher should be emotionally stable, not allergic to every wind of opposition. Let the Scholastic cease to handle the syllogism like a battle-axe. Let the dust settle, and everyone's vision will be improved.

A third reason for taking the steps that lead to rapprochement is an apologetic reason, and is set forth here because for many Scholastics it is still the most appealing. The best selling-point of a philosophy is its power to explain reality more completely. Now if the Scholastic can show that his principles make room for, if they do not

⁴ Hence it is hard to see how anyone could wish to abandon the study of the history of philosophy *in the interests of philosophy*; that would be like taking mathematics out of modern physics to make it more popular. Of course, by history of philosophy we do not mean the chronological cataloguing of opinions.

⁵ Cf. *A Preface to Metaphysics* (New York: Sheed & Ward, 1941), First Lecture.

actually contain, the method and the explanation of another system, then he has in effect made this explanation his own. He has increased the explanatory powers of his own system. And even those whose task it is to "refute" the errors of non-Scholastic philosophers will find that the best method is first to disclose what truth there is in the objectionable premise and what fact it purports to interpret; then, show that this premise is not required because *another* premise saves that truth and gives a *more complete* explanation of that fact.

Even after the Scholastic has realized that coöperation with other philosophers is not impossible, and that it is advisable to make the attempt, he should recognize that he is probably not too well equipped for the task emotionally. Surely it is to the credit of Thomism that it engenders certainty, even zeal; but it is to the debit of Thomists that they yield to an intellectual intolerance of non-believers; that they sometimes assume, when confronted with honest difference of opinion, that the honesty is all on their side. Most of all, they must beware of taking for granted that they are already entirely impartial and objective in their approach to other positions. One need not read far in modern Scholastic literature (this journal is not excluded) to discover the smug little turns of phrase that betray the set attitude, the *a priori* judgment—failures in scholarly method and objectivity that call for examination of conscience on one's habitual ways of thinking.

The Scholastic must really expect—and want—to learn something new and useful from the study of other systems; he must school himself to the sympathetic approach; he must look as eagerly for the community of meaning buried in seeming contrariety of expression as he used to look for the tell-tale slip of logic; he must expose wherever he can points of exclusion and stricture as non-essential to the systems; he must bring together equivalent formulations to illuminate one another. Doing this, he will do his share of the work; and non-essentials such as mutual suspicion and emotional antagonism will not interfere with the progress of a great philosophical movement.



In the last issue of this journal there were variously stated references to the Commission on the Function of Philosophy in Liberal Education which may have caused slight misunderstanding about the nature of this Commission. For the reader's information, the Commission was elected by the American Philosophical Association from its own members; the only relation of the Rockefeller Foundation to it consists in having made a grant of funds to defray the expenses the Commission will incur in the prosecution of its task.



The editors invite comment from the reader on anything that may appear in this journal. Ideas on the above mentioned project of inter-school coöperation are especially welcome.

G. V. K.

BOOK REVIEW: THE PHILOSOPHY OF MARSILIO FICINO¹

A BOOK ON a philosopher who has been little more than a name, even among scholars, awakens interest. When that book is a genuine contribution to philosophic research, when it increases man's intellectual heritage, it merits respectful attention. Such is *The Philosophy of Marsilio Ficino*—a significant book. And this for two reasons: by bringing into light the position of Ficino, it crystallizes our own concept of philosophy; and it presents a problem in the interpretation of philosophies which must be resolved.

The scholarly analysis of Dr. Kristeller brings before our eyes a humanist-philosopher of the Renaissance, a man of talent and spirit, strikingly modern for all his vision of the past, a figure little known and appreciated but demanding consideration. Most historians list Marsilio Ficino as founder of the Platonic Academy of Florence established in 1462 through the bounty of Lorenzo the Magnificent, and catalogue him as an energetic Neoplatonist, advocate and popularizer of the Platonic cult which culminated in the philosophic canonization of *Divus Plato*, translator of Plotinus, Porphyry, and Proclus, and the first to render the entire Platonic *corpus* into Latin. As such, and little more, he stands in the ordinary page of history. One can find the *Britannica* saying: "It is not easy to evaluate the services of Marsilio Ficino. As a philosopher, he was not original, his laborious treatise on Platonic theology being little better than a mass of ill-digested erudition" (vol. IX, p. 219). It is no small merit of Dr. Kristeller that he has shown definitely the shallowness of this view of Ficino and the poverty of our general appreciation of that ebullient philosophic speculation whose background was the Italian Renaissance. For in that page of history the splendor of classical humanism has eclipsed philosophy; we sense another "profound ignorance" in the course of human thought.

How are we to view the man Ficino? Where is his place in the intellectual Pantheon? Philosophers, we find, are divided into those who court Wisdom for Truth's sake and those who are at pains to convince others of the grandeur, dignity, and perhaps even the utility of their own purview of reality; Marsilio should be placed in this second and larger group. The problem that he presents is that of the periodic resurrection of Platonic systems of thought. And if it is true that these sudden but ephemeral returns of Platonism vanish into scepticism or pietism, and if Ficino is really a Neoplatonist, there may be more connection than has been supposed between him and the intellectual darkness of the seventeenth and eighteenth centuries. Is this man one of those souls who have brushed the fringes of real greatness and started the course of thought off into new channels, or is he just another volatile dilettante? By what standard shall we measure his work, by his attempt or by his achievement?

THE WORK IN SUMMARY

The book itself manifests a thorough regard for detail. Dr. Kristeller is well acquainted with the problems of Plato and Aristotle and shows respect for the Scholastic Middle Ages. The volume, written first in German, then in Italian, is translated from the latter by Virginia Conant, and is the first of its kind in English. It consists of an Introductory section and two main parts: "Being and the Universe," and "Soul and God." The part on "Being" is devoted to Ficino's attempt at an integrated, ordered picture of reality.

¹ Paul Oskar Kristeller, translated by Virginia Conant. Columbia University Press, 1943. Pp. xiv + 441. \$4.50.

Being includes everything that can be an object of thought, from the aspect both of the object and the concept it engenders. Yet reality in its totality (at least in parts of Ficino's thought) transcends *Being* as such: it embraces the *One* of Plotinus and the *Good* of Plato; it seems also to include *Nonbeing*. But whatever its limits, *Being* itself is a closed sphere,² hierarchically organized; if it does not include God, it enables us to ascend to Him—indirectly, by an intuitive dialectic. The other part, "Soul and God," places this hierarchical ladder of *Being* in focus with a theory of ethics, where the determining object becomes goodness and not intelligibility. Here the strong homo-centric spirit of the Renaissance is in sharp evidence. Though God be the goal of intellectual ascent, the center and pivot of the universe is man—*Soul*. The very relation of *Soul* to God involves problems whose solution is the *raison d'être* of Ficino's philosophizing. In this complex, logic, metaphysics, and theology are interwoven and at times confused.

Of the two main sections, it is difficult to say which has more weight. Ficino's consideration is focused on *Being*, but under the aspect of the Soul-God relation. Thus the various chapters of the book are intimately related and it must be read as a whole before one can get a grasp on the somewhat elusive principles which underlie the intricate amalgam of its thought—principles, Dr. Kristeller informs us, absolutely necessary to evaluate the whole.

In the first chapter of the Introduction, "Methodology," we are told that Ficino was not one who sought new theories for originality's sake; rather, he is independent with that vigor of thought which comes of vision and an almost apostolic zeal for philosophy. He attempted to possess reality by an intuition and concretize this intuition in his system. And this direct experience of a dynamically ordered reality is not the ecstatic possession of an aloof, impersonal One of Plotinus, but it is a quasi-mystical vision of the Christian God. For Ficino, a loyal Christian and a priest, the very purpose of philosophy was to furnish a rational basis, impregnable and definitive, to combat the prevalent heterodoxies of Averroism and Alexandrine Aristotelianism. Philosophy then is to be a way of life culminating in the living intuition of divinity. It is hard to concede the author's point that the mysticism involved here is not religious. A Scholastic would want to say that Ficino has not made at all clear the distinctions between philosophy, theology, and mysticism.

The author's summary of historical antecedents may appear to some too brief, but Ficino's position in general is clear. He is one who gave the status of a semi-revealed theology to the whole tradition of Platonism (and its supposed antecedents), influenced in this respect by Pletho and by the general Renaissance tendency to parallel Christian revelation and pagan wisdom. Ficino considers himself an instrument in the hands of Providence to bring about the intellectual conversion and salvation of the world by grounding Christian revelation solidly in Platonic thought. He considers philosophy a thing of beauty, but most of all a means of intellectual (if not rhetorical) persuasion. He too, like St. Augustine, is a philosophic apologist, but in a very different way. Augustine was interested in the soul's conversion to God as a personal experience; Ficino sought to find in the Soul-God relation the center and objective foundation for an entire system of thought.

ANALYSIS OF SIGNIFICANT CHAPTERS

To appreciate both Ficino's system and Dr. Kristeller's critique it will be necessary to give a closer scrutiny to five key chapters in the book, taking

² The word "sphere" is rather technical. It seems always to have a quasi spatial connotation.

them out of sequence but placing them in an order which seems better suited to harmonize and integrate the system of thought. We begin with the chapter on "Internal Experience," which in the book is placed at the head of the last part, "Soul and God." This chapter is selected for two reasons: the Soul-God relation is both the key and the crown to Ficino's philosophy; and *internal experience* is its most important point of departure.

Dr. Kristeller affirms that the "peculiar character of a philosophical system can be grasped not so much in its conception of Being and the world as in the way in which it interprets the nature of man and his place in the universe" (p. 203). Clearly, *internal experience* is basic to any interpretation of the nature of man. But withal, it is an experience difficult to analyze and more difficult to describe. With Ficino internal experience is some sort of philosophic awareness that truth is possessed absolutely, a vivid intuition of reality which was hailed by the Platonic and Augustinian schools as resulting from a type of illumination—so brilliant is its entrance into the soul. Most men do not enter into themselves profoundly enough to be aware of their unquenchable longing for eternal things, but those who do are face to face with that sense of wonder—a wonder embedded in the heart of man—which gives birth to the "philosophic eros," and thus begins the everlasting quest for the Infinite. Ficino has borrowed much from Augustine, but the latter's triumphal discovery of God within him is not for Ficino. In his internal experience there is an emotional side which is the fruit of melancholy, and melancholy seems to him a necessary prerequisite for intellectual contemplation. It is not clear to us whether this dismal period is the philosophic purgation of Plotinus or a preparation for true Christian mysticism.

The importance of this treatment of internal experience is at once evident because, according as one understands the relation of experience to external reality will one have a genuine objective metaphysics, or only the metaphysics of the *thinking subject*. It seems that Ficino's purpose was to set down a metaphysics of reality, but since he did not attain to reality as the ultimate act of existence, *to be*, his metaphysics will be only partial, inadequate, and conceptual. I mean *conceptual* in the sense of treating reality as the correlative of concepts rather than of judgments, not *conceptual* in the Kantian sense of apriori categorical determinations of the *pure reason*. For Ficino, concepts are the objective re-presentations of the external world of natures—at least, he will try to make them such. And so this internal experience is not independent of the world outside, but is largely conditioned by sensation. It is achieved gradually and not suddenly, and thus it is like the "ladder of beauty" in the *Symposium* rather than the sudden transcendent vision of Plotinus.

CONCEPT OF BEING

What does this experience do for man? By it he becomes aware of the philosophic stuff of the universe, and we have the metaphysical notion of Being. This brings our consideration to the chapter, "The Concept of Being," placed early in the book. And we note that in our study of the genesis of Ficino's philosophic inquiry it is this Being which objectifies the content of internal experience. "Anything we experience or anything that may become an object of thought may be said to exist, irrespective of whether or not we attribute special significance to this assertion and whether we assign the character of 'Being' to the object itself or to its concept" (p. 35). The fact that Ficino's concepts actually attain reality is important. The author gives repeated stress to this point, but always with considerable surprise and diffidence; for it troubles a mind nourished on Kantian criticism, which relieves intelligibility of any causal dependence

on the external world. Yet Ficino's position is clear: philosophy must embrace both the reality of the material world and of the spiritual ascent to God.

Dr. Kristeller asks three questions about Being: what is its function, its order, its character. His reply: it functions as a quasi-genus; in its order there is a definite reciprocal relation of the various beings; in its character Being is superior to both substance and attribute—and thus existence always denotes or connotes substance. This is all very fine, but Ficino's treatment leaves out completely any doctrine of analogy, an omission all the more startling because he has attempted to give an explanation of the Aristotelian teaching on *act* and *potency*, and in giving the character of Being as variously maintained by *ens*, *esse*, and *essentia* has come quite close to the Thomistic *real distinction*.

BEING AND THOUGHT

The third chapter, "Being and Thought" gives evidence of Ficino's tendency, in Neoplatonic fashion, to confuse the real and intentional orders. There is present also a manifest distrust of objective causality in the order of cognition; how much of this is the spirit of Ficino is not clear, but we fear that most of it is due to the author's interpretation. Another problem in both these chapters is that involving the concepts of Being and Nothing. Is Being primarily related to intelligibility or to existence? It would appear that Being is a sort of general category including all species, actual or possible. And if Being is defined by its relation to intellect and not by its relation to existence, is God contained in the sphere of Being or not? If not, how can we know Him, and what becomes of the theories of natural appetite and the Soul-God relation? But if God is Being, how can the *One* and the *Good* be placed above *Being*, in a self-styled "Christian" metaphysics? This is just another way of asking whether the mystical intuition of God is rational or supra-rational. *Nothing* presents a further dilemma: at one time it appears to be entirely outside of Being, yet we find it (in definite opposition to the Scholastic tradition) considered almost as the material cause of creation, and thus as something intelligible. Can it be that here, as with Meister Eckhart, are involved two concepts of "nothing," and not one? In any case it is clear that Ficino's metaphysic is one of ordered natures, and not existential. The basic reason for this must be the "error" of Neoplatonism—the fundamental disregard of analogy. No analogy; for had Ficino "taken it into account" it seems to us that he surely would have mentioned it explicitly. At this point the Thomistic metaphysician would be tempted to close the book, since Ficino himself has already given the *coup de grâce* to his own system.

APPETITUS NATURALIS

But the historian must go on. And so to the fourth chapter, "Appetitus Naturalis," which concludes the part on "Being and the Universe." Dr. Kristeller shows that this natural appetite is the source from which motion flows to attain its goal in that rest to which the appetite is ordered. This natural appetite is, as for a Scholastic, the nature ordained to perfect itself and attain its end by its own proper operation; the nature of a thing is the principle of appetite, of motion, and of love. Motion is the bridge between the natural appetite and its term or perfection. But because substance is conceived as a static substrate to which are attached appetite and motion as so many active "barnacles," there is more mystery here than there is explanation. Motion should be also a sort of bridge between the real world and the mental world, but Ficino cannot effect this rapprochement. It would appear that whenever the two worlds come near (not touch!) the gap is "overcome dialectically," but the residual unintelligibility is not accounted

for, as it might have been had Ficino applied his Aristotelian notions of *act* and *potency*. But this is not done and so we find the author stating that Ficino "inserts" acts into the objective universe (p. 177), and similarly, "all dynamic factors are derived from static principles"³ (p. 172). This theory of appetite also acquaints us with a peculiar triad on each level of operation in the universe; the notion is a sort of cross between creation and emanation: just as things by creation emanate from God and so are constituted in their being, by an innate tendency they seek to return to God and so are constituted in their goodness, which engenders love. We might term this triad: *source*, *process*, and *recess*. In a similar way, action emanates from the Soul, establishing it as a living being, and returns to it by a higher power, constituting it as a thinking being. Dr. Kristeller is constrained to repeat that dynamism arises from a *static* substance, and through a process of motion, returns once again to the state of rest.

KNOWLEDGE OF GOD

The fifth chapter which appears of cardinal importance is entitled, "The Knowledge of God." "According to Ficino the whole content of internal consciousness may be summed up in the formula that the human Soul knows God" (p. 231). Such knowledge is the goal of the process which internal experience had begun. Thus we may summarize the whole of Ficino's thought by calling it an attempt at rationalizing the ascent of the Soul to God. It is important here to indicate clearly that this ascent is, as it were, the subjective counterpart, the internal verification of the *appetitus naturalis*. And since the knowledge of God is the summit and goal of his entire epistemology, we must give a summary description of this most unsatisfactory theorizing. Because Ficino leans heavily and indiscriminately upon both Plato and Aristotle, there is an incurable dualism pervading his system; nowhere is this more in evidence than in the treatment of knowledge. At one moment we find a doctrine which sounds for all the world like the Arabian *dator formarum*: "The divine ray . . . which contains all forms, passes from God in different degrees to the angelic and human intelligences to which it gives the force of knowledge and at last to the matter of the corporeal world, which it fills with objective forms" (p. 232). This seems to refer to internal experience, and gives us something close to the notion of illumination mentioned above. But again, on the next page, there is an explanation of the origin of sense knowledge which reads as pure Aristotelianism—up to the production of the sense image in the phantasy. The gap between external sensation and the internal intellectual experience is striking; at best the presence of the sense image can only be the *occasion* of intellectual conception. The concept itself is produced by a transit from potency to act in the Soul, by a movement from the *formulae* which have been implanted there by the Ideas to the actual and explicit common nature.⁴ Now to summarize the eclectic and discordant elements in this theory of cognition, we have something like the following: an Aristotelian sense cognition combined with Augustinian and Platonic dualism of sense and intellect, a dualism reconciled by a primal emanation of *formulae* to give us some sort of psycho-physical parallelism which echoes John of La Rochelle and prophesies Descartes. Out of this complex, the Soul somehow becomes aware of its transcendent ordina-

³ It appears to the reviewer that Ficino is sufficiently in the Scholastic tradition to make substance (nature) *dynamic*, not *static*; thus there is no difficulty here.

⁴ Such is the only interpretation which will reconcile the theory of an Avicennian *dator* with the numerous indications of the *latitatio* of Anaxagoras.

tion toward a contemplation of the supra-sensible Idea, which through the "mysticism of philosophy" or the "rationalism of grace" merges into the ascent to God. A remarkable synthesis—building from internal experience up through the hierarchy of concepts to an intimate union of Soul with God. But it is a structure of the mind and stands apart from the order of reality. Ficino has attempted to remedy this defect by correlating with his system an external *sphere* of reality, which, as we shall see, is the *hierarchy* of Being. But this correlation is only wishful and factitious. He has built a lofty structure upon the basic Platonic notion that Being is the perfect parallel of Thought—but parallels never meet.

Although Ficino attempts to resolve this over-idealistic structure of thought by his doctrine of *Truth*, the result is but to emphasize the difficulty. Thought itself, he says, is possible because of an objective *affinity* between mind and object, a conformation determined by the spontaneous and necessary correspondence of the intellect's form to the form of the object. This correspondence is *Truth*, and this doctrine of affinity attempts to bridge the gap between sensation and internal experience. We note again that nowhere is there explicit mention of any causal relation between the external reality and the truth of the intellect, yet Ficino strives by this affinity (which is nothing else than *love*) to make truth one manifestation of the *appetitus naturalis* theory.

HIERARCHY

Two other chapters in the first section of the book are of definite importance in rounding out the doctrine sketched above: "Hierarchy of Being," and "Primum in Aliquo Genere." In the first of these we find Ficino's position once more in opposition to the Kantian-Modern mind. He begins by looking for a principle of ontologic and transcendent validity which will correlate and unify the sphere of Being and likewise objectify and substantiate the doctrine of Truth. This principle is found in an application of the Dionysian notion of *hierarchy*, which greatly influenced medieval Scholasticism. But it must be confessed that the objectivating force of this hierarchical order is soon lost sight of in face of Ficino's passion for putting all conceptual minutiae into a workable, but not necessarily valid, *schema*. The author's treatment of this hierarchy does not strike one as entirely adequate, especially in its historical aspects. One who is acquainted with St. Thomas' fourth way of proving the existence of God will not be apt to concede that "the hierarchy of the Middle Ages . . . is a series of degrees disposed one beside the other" (p. 75). Is it not rather an ordered ascent? In this concept of hierarchy we find the notion that the higher contains all the perfection of the lower, and yet more; but in Ficino this perhaps leads to something like the plurality of substantial forms, a tradition common both to Augustinian and Neoplatonic thought. The question whether the various grades of being are distinct, or fused in emanation, is not clearly defined. It is important to note that the Aristotelian placing of the perfection of the world in the species and not in the individual is stressed—a strange metaphysics for either a Renaissance spirit of individualism or the Christian concept of the dignity of the person.

THE "PRIMUM"

Dr. Kristeller's treatment of the *primum in aliquo genere* lacks precision. He refers to the phrase *perfectum in aliquo genere* as occurring in Thomas Aquinas, but it has a vastly different meaning there than with Ficino. Now, the author had introduced this discussion of the *primum* by attempting to give some idea of the Aristotelian meaning of genus as a stable ontological category, contrasted thereby with Ficino's "genus," which is an ascending hierarchy in the line of one perfection. We can add that the

term "primum" originated specifically in the branch of Arabian thought derived from Neoplatonism,⁵ and not in Scholasticism.⁶ St. Thomas retains this use of *primum* in proving the existence of God from graded perfections in the universe; his words are: "Quod est maximum in unoquoque genere"; "in unoquoque genere est aliquid perfectissimum" (*Sum. c. Gent.* I. 41; I. 28)—but with Thomas there is no confusion between this "genus" of perfections whose *primum* is God, and the genus of the categories, which can exist only in its species. Much that the author feels was contributed by Ficino himself shows a close resemblance to earlier Scholastic thought. A case in point lies in another application of this principle of hierarchy: light is diversified by its greater or lesser participation, and such diversification results in the various colors. A similar concept is found in the works of Robert Grosseteste, and to some extent in Albert the Great. In general it seems safe to assert that Ficino is closer to the tradition of medieval Scholasticism than Dr. Kristeller has made evident.⁷ Henry Osborn Taylor, speaking of Ficino's *Theologia Platonica*, has this to say:

Ficino praises Plato and reproves those who would impiously sever philosophy from religion. He will set forth chiefly what Plato has on immortality:—is there not Augustine's authority for finding Platonists to have been almost Christians? He hopes to give nothing save as divina lex comprobet. . . . In the treatment of its subject the work is indefinitely scholastic. It has much of Plato and Plotinus, and Hermes Trismegistus too; but it has also much of Thomas Aquinas. For, though Ficino endeavored to reach back to Platonic sources, he did not cast aside his nearer mediaeval past, which indeed largely furnished his attitude and method, and the intellectual atmosphere which he breathed.⁸

THE TRADITION OF FICINO

A problem that has arisen several times is this: what attempt did Ficino make to reconcile the almost ubiquitous Plato-Aristotle dualism running through his thought? He is always considered a Neoplatonist, but he must be a very lenient one. He never makes light of Aristotle, and this despite his vigorous denunciation of the Averroistic school. It would be easy to say that he is one who has attempted, in the tradition of Albert the Great, to fuse Aristotelian thought with Neoplatonic, while yet retaining the later's terminology. It would be equally easy to say that he is a collector of mosaics of thought, but fails to form them into a picture. A statement of Gilson's concerning this same situation in medieval thought is here of interest:

Shreds of Greek thought more or less clumsily patching up theology—that, we are told, is about all the Christian thinkers have left us. Sometimes they borrow from Plato, sometimes from Aristotle, that is to say when they are not engaged on something considerably worse, an impossible synthesis of Plato and Aristotle, an effort to reconcile the dead who never ceased to differ when alive—as John of Salisbury already

⁵ It is common in Avicenna, Avicebron, and Algazel. Cf. J. T. Muckle, C.S.B. *Algazel's Metaphysics*, (Toronto: St. Michael's Medieval Studies, 1933), pp. 62-90 and *passim*.

⁶ The author leaves this question open, (p. 152).

⁷ A treatment by Kristeller and John Herman Randall, Jr., "Study of the Philosophies of the Renaissance," *Journal of the History of Ideas*, Vol. II, No. 4 (Oct., 1941), points out more clearly the dependence of the Renaissance on the Scholastic tradition.

⁸ *Thought and Expression in the Sixteenth Century*, (2nd ed.; New York: Macmillan and Co., 1930), Vol. II, p. 276.

remarked in the twelfth century.⁹ While it is true that much of Renaissance thought was characterized by a certain dilettantism, not overmuch interested in internal consistency or rational content so long as what was said remained inspiring and literary, it is difficult to ascribe such a position to Ficino. He was a man obviously sincere, but it is evident that he failed to reconcile these two streams of thought. Why has he failed? From the book itself, especially due to lack of quotations in the Latin original,¹⁰ this question remains unanswered.

PHILOSOPHY AND KRISTELLER

But what is Dr. Kristeller's reaction to this unique philosopher? There is an evident Kantian flavor about the book. Indeed, the author seems to hold that pre-Kantian philosophies are a trifle naive in their whole-hearted acceptance of reality as intelligible in itself:

... if we really want to understand a pre-eighteenth-century philosopher, we are forced to distinguish between two things which for him were connected in unquestioned unity: the concrete reality constituting the content of his experience and the object of his thought, which is in a certain measure accessible to us also; and the conceptual form through which he has interpreted and developed that experience, which we can still understand in its logical form, but which for us has no longer any validity or force of demonstration. (p. 203).¹¹

But then why bother at all about the metaphysics of Marsilio Ficino? Dr. Kristeller would undoubtedly reply that we are interested in obtaining some notion of Ficino's own metaphysical outlook, for purposes of erudition and historical perspective, but that, after all, we cannot be concerned with its ultimate validity. But how can we attempt to gain any notion of his metaphysics by considering him only on the plane which destroys the possibility of metaphysics? Is it at all possible to view another's metaphysics without employing metaphysical concepts?

To answer these questions it is necessary to set down clearly our estimate of the *Philosophy of Marsilio Ficino* as a book indicative of that contemporary conscience which guides the spirit of historical research, for this volume is but one concrete instance of that pervading spirit. It is quite possible that the enigma of Ficino is due to the fact that Dr. Kristeller has attempted an impossible task. If he has failed, and I honestly believe he has, to present an integrated understandable synthesis of Ficino's thought (making, of course, due allowance for Ficino's undoubted inconsistencies and lack of ability to assimilate detail), it is incumbent upon us to consider at least the partial reasons for such a failure, and especially, what might well be the necessary conditions for a corresponding success.

PHILOSOPHY AND HISTORY

Our thesis can be expressed in a few words: It is impossible to treat of the history of philosophy, either in general or in the case of one particular philosopher, without treating it on the same plane on which it was born—on the plane of metaphysics; the history of philosophy is a part of philosophy and a system of philosophy devoid of its history is an orphan, if not a monster. The general thought of this statement is obviously that of Gilson, and he has abundantly indicated its truth in practice—at least in his own case. Let me merely try to sketch the intrinsic futility of setting

⁹ *Spirit of Medieval Philosophy*, (New York: Scribner's, 1936), p. 2.

¹⁰ Cf. the review of this book in the *Thomist*, Vol. VI, No. 3 (Oct., 1943), p. 410.

¹¹ There is another possible interpretation of this attitude. Dr. Kristeller may be trying to put his treatment in the plane of a reader for whom the Kantian critique has said the last word in the destruction of metaphysics.

down philosophical data without the metaphysical spirit by which to vivify them. A parallel instance will clarify the point. Suppose that one who is not a mathematician is attempting to write a history of mathematics; the result could be nothing more than a chronological listing of new problems and new methods and new solutions. If the history of a science is to be more than a directory of events the intelligibility of that science must be incorporated into its history. And likewise the contribution of one man to a science must not only be organized according to the principles of that science but must be focused in the light of his predecessors and followers. To be concrete: one who knows nothing of the infinitesimal calculus in attempting to analyze Leibniz's contribution to this field can copy or paraphrase Leibniz's own writing or his symbols of variables and limits, he can even note the conformity between some of Leibniz's solutions and a few mathematical formulae remembered from his own school days, but he is in a sad way when it comes to organizing and explaining the method which is the calculus itself—and all this is true because he does not understand the symbols involved and consequently cannot express their interrelation. Only a *mathematician* can treat mathematical topics *mathematically*, and only a *metaphysician* can be a *philosophical* historian. The symbols used by a historian in portraying the doctrine of some metaphysician are the same symbols which fit so carelessly through our minds day in and day out, from the newspaper, the radio, or the pulpit; they are *words*. Every science has its own vocabulary of symbols, but it is the misfortune of metaphysics that its technical vocabulary is largely made up of words identical in sound and spelling with words in everyday usage, but a mild infinity apart in meaning. Yet the historian of philosophy must use these words, and more—he must interpret them to his readers, who may have neither access to the original sources or facility in their particular language. He must overcome connotations which the same words have impressed upon him, or upon his readers, in other connections. He must, in brief, get at the ideas the words strive to convey. There is no light obligation involved here, for words are the vehicle of truth. And so without apology we place as norm for a historian of philosophy that he be a philosopher *par excellence*.

We submit that it is here Dr. Kristeller has failed for he has attempted to reduce Ficino to his own plane and not placed himself in Ficino's perspective of reality. For this reason his projected synthesis has not been realized, and Ficino yet remains an enigma. We are constrained to feel that there is no vital interest in the truth or error of the thought of one who must have been at least something of a philosopher. Such things do not seem of much weight to the author; the reader is impressed that there is at stake rather a narration of Ficino's mental extravaganza than an acute and critical analysis of his thought on its own merits and an evaluation of it in the full light of its own peculiar *weltanschauung*. To corroborate this statement that the book has not effected a vital synthesis of Ficino would require much collation of it with the original texts, but it stands to us as a justifiable conclusion. This personal estimate, however, must not be construed as impugning the high scholarship and scientific zeal of the work. It should be interpreted as an appeal to those who reject the possibility of metaphysics. Would that a Ficino might inspire them to reexamine their principles, to see if there is not something valid and genuine in that tradition from which Ficino borrowed those elements of his philosophy which are vital and coherent.

JOSEPH FRANCIS COLLINS

BOOK NOTES

THE PHILOSOPHY OF BEING by Henri J. Renard, S.J. *Bruce*, 1943.

Pp. viii. + 259. \$2.50.

This is as good a text book in English on metaphysics as one will find.

The author purposes to present a unified, short, clear exposition of the metaphysics of St. Thomas Aquinas. This purpose he accomplishes, aided thereto, in a considerable degree, by the printer's art. Those, moreover, who accept St. Thomas' metaphysics will find that Father Renard has done better than be complete, concise, clear: he has been faithful to his source. The doctrine of this book authentically is the metaphysics of St. Thomas. Physically attractive, *The Philosophy of Being* will also exert an intellectual tug upon those who remain unmoved, and rightly, before the "average intelligent misunderstandings" of Thomistic doctrine which are scattered here and there throughout many texts, written *ad mentem Divi Thomae*.

There are two impressions I have of this text which may or may not be valid. Thomism has not always been well served by Thomists. Too many Thomists have propounded Thomism with an implied or expressed exhortation to believe or die. This, Father Renard does *not* do. There is no *vae tibi* about his persuasion. Yet, some will think there is. These gunshy individuals must be calmed down, how, I confess, I do not know. Perhaps they might be assuaged by a bit more history. History can assure one that adversaries are not conspirators against truth, rather they are keen, consistent thinkers without the data. I know that some history would enlarge this book beyond its scope, or would it? My second impression is this: there is a faint aura of Latinity about some expressions, e.g., "act says perfection" (*actus dicit perfectionem*). Very difficult to avoid, that aura.

Despite these two unimportant and perhaps unjustified grumbles, the book remains the best in English which I have seen. Teachers will be grateful for the book, because, among other reasons, students are grateful for it. Here they can see in print what any Thomist tries to say. One who has striven to fix for them the truths of metaphysics will appreciate that advantage: *scripta manent*.

GERARD SMITH

HUMANISM AND THEOLOGY by Werner Jaeger. *Marquette University Press*, 1943. Pp. 86. \$1.50.

The 1943 *Aquinas lecture*, given at Marquette University and entitled "Humanism and Theology," is an important discussion of the problem of Humanism, not only because of what is said but because a great scholar, Mr. Werner Jaeger says it. St. Thomas is presented as a true humanist, and his system of theology as the decisive indication of true humanism. The problem proposed is not philosophical but historical; it is the problem of the theocentric view of the world, represented by St. Thomas, and its relationship to the Greek idea of culture. Aquinas, Professor Jaeger explains, embraced the Greek philosophical tradition; and this tradition cannot be separated from true humanism. As a consequence, the attitude of mild contempt for the "degenerate scholastic tradition" is thoroughly exploded. Mr. Jaeger speaks of the "Modern Middle Ages" and of the "medieval humanists of the fifteenth century."

True humanism then does not admit that man is the measure of all things. Nor does it imply as many have thought, that a fundamental scepticism about eternal truth is the root of true humanism, to the exclusion

of any theocentric view of the world. Many have accepted humanism in that sense. Mr. Jaeger rejects such a view, not because of philosophical reasons, but because of historical facts. He establishes the creation of a christian culture culminating in the systems of Augustine and Thomas. "They blended," he says, "the two outstanding manifestations of a theocentric humanism in classical antiquity, Platonism and Aristotelianism, with the Christian Faith."

The book is well edited with excellent notes. But the price for a pocket size volume—there are 64 pages of text—may be prohibitive for those whom the book would benefit most, the average students.

HENRI RENARD

PHYSICS AND PHILOSOPHY by Sir James Jeans. *Macmillan, 1943.*
Pp. 222. \$2.75.

When an outstanding expert in practical and theoretical science presents a treatment of the relations existing between Science and Philosophy, the task of estimating the value of the views he proposes is one that presents particular difficulties. It would be presumptuous for anyone but another expert in science to take issue with those views when they concern science itself, but the author, unless he be expert in philosophy as well as in science, exposes himself to the same presumptuousness when he engages in a criticism of what is purely philosophical. Sir James is careful in his preface to declare that he has no intention to pose as an authority on questions purely philosophical, but his statements in the development of his theme seem to indicate that he forgot his original assurance. More serious still is the fact that for him philosophy is identified with modern forms of Kantian philosophy, with only a word of dismissal for other doctrines in philosophy which are often, at best, incompletely represented.

A full and fair Criticism of Sir James' book would call for a volume several times the size of *Physics and Philosophy* itself, for there is scarcely a page in the work which does not contain some statement whose correct interpretation requires an entire background of philosophical principles. Greek philosophy is dismissed in less than a page of text, as being especially concerned with ethics, organization of society, government, and education. Aristotle is but a name, mentioned in the same sentence with Thales, Epicurus and Democritus. The entire body of Medieval Philosophy merits only a page which merely retails the outdated slurs of "eclipse of Greek culture," "medieval slumber," "casuistries of theological doctrine," "hand-maid of theology," "alchemy and astrology," and all the rest, born long ago of ignorance or prejudice, which bring a smile to the lips of even the beginner in philosophy. Merely a bowing acquaintance with the works of Aristotle and St. Thomas Aquinas, for instance, would have made this part of the book somewhat different. And the work of the modern scholastic philosophers is for Sir James simply non-existent.

We can agree heartily with Sir James in his contention that it is absurd for the philosopher to claim that he can build up a body of scientific knowledge from speculation on philosophic principles, but it is hardly fair to give the impression that this is a characteristic of all philosophy. However, the shoe is on the other foot when the scientist tries to make science and scientific fact the basis for philosophical development. Though this claim may not be made in so many words, it is nevertheless the definite tenor of *Physics and Philosophy*. Experimental scientific fact and fundamental philosophical principle are two very different things; neither can be drawn from the other. Yet, true philosophy and true science do have a definite mutual relation of helpfulness. Philosophy, with its fundamental principles, can direct scientific endeavor and guard it from error; new

scientific findings can confirm philosophic principles, and furnish occasion for further elaboration of those principles.

Perhaps the best way to describe the shortcomings of *Physics and Philosophy* is to say that it does not deal with Philosophy but only with certain *philosophies* which, by reason of their logical weakness or their unphilosophical and anti-scientific bias offer themselves as rather ludicrous sitting ducks for the argumentative marksmanship of the expert (or even the novice) in science. After all, the division Sir James makes of Philosophy into materialistic and idealistic is hardly adequate. No doubt he has well shown the intellectual bankruptcy of certain systems of thought in the fact that they are utterly unable to give a rational interpretation of established scientific facts, but he has ignored the presence of another system of philosophic thought which, far more ancient and continually growing in power, joins hands with science in the fellowship of a single Truth.

Marred though it is by its incomplete view on Philosophy, *Physics and Philosophy* is a welcome and useful addition to the philosopher's library. Its treatment of modern practical and theoretical developments in science is interesting, intelligible and unassailable. It furnishes more detailed evidence of the error of the systems of philosophical thought of which it treats. It gives the philosopher a new understanding and sympathy with the scientific attacks on philosophy in general—namely, that they are based on a faulty knowledge of what true philosophy is and does.

CHRISTIAN L. BONNET

AN INTRODUCTION TO MODERN PHILOSOPHY, IN SIX PHILOSOPHICAL PROBLEMS by Alburey Castell. *The Macmillan Company*, 1943. Pp. x + 562. \$3.50.

Too many years ago, I was a student in a class in political economy conducted by a man fresh out of Oxford. He asked the group one day what were the economic effects of the corn-laws in England. No answer was forthcoming from the class and there was one of those long silences, embarrassing alike to students and professor. Then, at long last, one brash youth spoke up: "If you would tell us what the corn-laws were, perhaps we could deduce their consequences!" That was my introduction to Alburey Castell. As a student, he was frank, disarming, and yet critical.

Now Alburey is teaching philosophy, with considerable distinction, at the University of Minnesota. His present book shows that he has lost neither his frankness nor his critical approach. It is a very well arranged book. He takes six problems and illustrates them by paraphrases and direct quotations from noted philosophers. For each problem, five thinkers of the past are called upon for elucidation. And, as things move along, Alburey deduces, at times, a few consequences. The choice of problems is wonderful. Nine men out of ten, sitting down to an introduction to modern philosophy, would take as their opening topic the problem of knowledge. But not Alburey. He centers his first problem in the field of natural theology. And I think he was right in so doing. More than most historians realize, the era of modern philosophy was characterized by a new attitude toward theology, natural and supernatural. The same nine men out of ten would choose as their first spokesman, someone like Francis Bacon, or Descartes, or Leibniz. But not Alburey. His first witness is St. Thomas Aquinas! Since the modern student is not prepared to read with understanding the reasonings about the existence and nature of God, as they are found in the unfamiliar structure of the *Summa Theologica*, Professor Castell paraphrases the *Quinque Viae* and adds a few remarks about the problems of evil and of free choice. The professional Thomist may point out that this paraphrase is simplistic and not overly profound.

He might even claim that Alburey does not know much more about Thomism than he did about the corn-laws. But here is where the disarming quality of Castell's personality comes to the fore. This is an introduction to modern philosophy, and not to mediaeval thought. And if there is one safe comment to make on modern philosophers, it is that none of them understood St. Thomas. Hence, the student is really being presented to the spirit of modern philosophy. After this, the theodicies of Pascal, Hume, Mill and William James are offered for consideration.

What would be the effect upon the student who reads this eclectic account of the first problem? Castell says that he will have an intellectual experience of the first order. I should think that this is true. It is calculated to make most students thorough sceptics, critical of practically all claims about the nature and existence of God. This eventually is foreseen calmly by Professor Castell, who states (p. 7) that the central point of a modern introduction to philosophy, "would be an inquiry into the nature, the varieties, and the presuppositions of criticism."

The other problems (metaphysical, epistemological, ethical, political and historical) are handled in the same way, with variations in the choice of authors. In most cases, the final writer quoted under each problem is a pragmatist or near-pragmatist. I think the two philosophers who command the greatest respect on the part of Professor Castell, are John Stuart Mill and William James. This is not to say that he is a follower of theirs. The reader will have divined by now that Castell follows no one but Alburey. His book does precisely what its title promises: it introduces the reader to that manner of thinking which is typical of modern philosophy. Whether that is a valuable way of thinking is another problem. I should not like any student of mine to know *philosophy* only through this book. But I would heartily recommend it to any who wishes to know the essential attitudes of *modern philosophy*. It is, in fact, uncomfortably close to being *modern philosophy*.

VERNON J. BOURKE

GILBERT KEITH CHESTERTON by Maisie Ward. *Sheed and Ward*, 1943. Pp. 685. \$4.50.

There is so much bounce and claptrap in book advertising and reviewing that one takes up a much-puffed book with mistrust, even with dislike, fearing that all the praise of it is an echo of yesterday afternoon's cocktail party at the publisher's apartment. The blurb writers protest much too much. *Chesterton* appeared under such a handicap, having received one of the loudest fanfarades, if not the loudest, of the autumn season. The Catholic press spoke in superlatives about the book. The *New York Times Book Review* gave it more than two columns; *Time* gave it three; and the *New Yorker*, though less lavish with space, wrote enthusiastically that "it is a grand book to read." Fadiman, the suspicious reader finds out with delighted surprise, correctly summed up the reviewers' opinions. *Chesterton* is a grand book to read.

It is a G.K.C.-sized biography; and as it is crammed with anecdotes and long quotations from Chesterton's letters and books, it becomes the mirror of the man.

While he was alive, G. K. was often compared with Dr. Johnson, whom he loved so much. Both of them were characteristically English; one can no more imagine a French or German or Polish Chesterton than he can imagine a French or German or Polish Johnson. Certainly the two of them were remarkably alike: large men, untidy, badly dressed, shifting their bulk about, and lumbering in and out of rooms. They both loved food and drink; they both were the center of a distinguished group of friends; they both could talk for hours on end, to the enchantment of their

audiences, and were masters at once of essay-like discourse and the repartee we call "wisecracking." As Johnson walked along the street he would unfailingly tap all the railings he passed; whenever Chesterton lit a cigar or cigarette he would make a ritualistic sign in the air with a match (the sign, in his later life, became the Sign of the Cross). Writing copiously on a variety of topics, Johnson and Chesterton were outstanding literary figures, whose habitat was Fleet Street and whose food and drink were journalism. Johnson edited the *Rambler* and then the less successful *Idler*; Chesterton edited the *New Witness* after his brother's death and then *G.K.'s Weekly*, usually thought inferior to the *New Witness*. Each of them was a great and good man, honest, democratic, modest, sensitively independent. They loved the truth and fought for it, and demanded that others should love it and fight for it, too. Johnson was a religious man; so was Chesterton, who, Maisie Ward says, in his Catholic faith saw simply the rounding out and the completing of the religion of Dr. Johnson.

In one point, however, a very important point, Johnson and Chesterton were wholly unlike. Johnson was a melancholy man; Chesterton was almost ebulliently joyous. That somber moral tract *Rasselas* could never have been written by Chesterton, for he was too full of jokes and humor and joy. Johnson writes like a man that endures life; Chesterton like a man that enjoys it.

Gilbert Keith Chesterton took six years in the making, and Maisie Ward did not think it too much to travel over England, France, and the United States for her materials. She talked to all sorts of people, famous and obscure, who, having known Chesterton well, could contribute living details to her portrait of him. There were famous men of letters to be seen, like Baring, Belloc, Shaw, and Wells; there were priests and journalists; and finally there were Chesterton's own close relatives; all of them capital witnesses to G. K.'s work and personality.

The amount of written material that Maisie Ward examined is staggering. She read all of Chesterton's books (in the order that they were written), the files of the *New Witness* and *G.K.'s Weekly*, and piles of notebooks and letters. This is only the primary source material; the secondary is at least as bulky.

No better biography of Chesterton has come out, and, considering the love and labor that have gone into writing this one, no better biography is likely to come out. We may need separate, detailed studies of Chesterton's political, sociological, economic, and philosophical thought. Yet we may consider this the definitive biography. And it is so without the slightest trace of the fustiness that the word "definitive" suggests.

CHARLES MULLIGAN

THE PHILOSOPHY OF G. E. MOORE, edited by Paul Arthur Schilpp.

Northwestern University, 1942. Pp. xv + 717. \$4.00.

Of the four volumes that have thus far appeared in this series (The Library of Living Philosophers), this book most nearly fulfills the purpose of the Editor, which is to have the particular philosopher explain, in the face of his critics, exactly what he holds. Moore applies himself most diligently to this task. The result however is rather wearisome reading. One reviewer is caustic about this sort of "philosophy"; another, admiring Moore's patience and humility (he often admits he was mistaken or is "completely puzzled"), commends him for his "saintliness." At any rate, the meticulous discussion of the minutiae of terminology is likely to try the patience of the reader. But it should be added that in oral discussion Moore heightens the quality of his discourse by a very animated zeal in defense of his contentions. A detailed analysis of the contents of this book will be found in the December 9 number of the *Journal of Philosophy* (Vol. XL, No. 25).

George Edward Moore began his academic life as a classical student. Although he turned philosopher, language continued to be his specialty. His great distinction has been, as Norman Malcolm points out, "constantly to defend ordinary language against its philosophical violators" (p. 368). Also, being British, Moore is naturally a champion of common sense. This is emphasized by Professor Murphy:

What he (Moore) shows is that it is quite possible to understand statements about observed material objects and other selves, in their ordinary and popular meaning, and to know their truth for certain, without knowing what their correct analysis is or which among competing epistemologies gives the right account of what it is that we are "ultimately" knowing when we know them (p. 310).

Moore does not claim to have a "complete philosophy" (p. 676), and has confined himself almost entirely to the validating of sense perception. This he has tried to do, not by appealing to metaphysics, but to language. Quite naturally he has a distrust of many vagaries that have been dubbed "metaphysics." Yet he feels that, as Scholastics maintain, the proper object of human knowledge is *intelligibile in sensibilibus*, and so he has rejoiced to find in language, which is both sensible and intelligible, the very thing he needs. Thus, he thinks, he can solve problems of knowledge without resort to any dubious metaphysic. To this reviewer it seems that both metaphysics and language stem from a common source, sense experience, and that each may be used to solve epistemological difficulties. The weakness of Moore's position is that he fails to recognize that language comes to us *by way of* metaphysics. Man has to be a metaphysician in some degree before he can have a language. To ignore this link between experience and language is to put oneself in the same positivistic predicament in which the men are whom Moore is trying to refute.

Moore also wrote on ethical topics, and his *Principia Ethica* is outstanding. But even here he is mostly concerned with variant meanings of the term "good," and his certitudes are grounded, ultimately it would seem, on ordinary language. Surely it is the birthright of language to speak not for itself but for realities beyond mere language. To employ language as Moore does is to ignore the real issue, and to involve him in discussions of endless shades of meaning which require tens of pages for the elucidation of so simple a statement as "I see my hand" (pp. 62-77, sqq. *et passim*). Furthermore, as Professor Lazerowitz complains, the sceptic, instead of creating a nomenclature of his own, purloins ordinary language and turns it to his own nefarious uses (p. 391).

Only in one significant instance does Moore discard language as his forte, and that is when he appeals to the difference between a directly seen object and an after-image (e.g., p. 671). Yet he weakens this argument by practically conceding, in his reply to Ducasse, that the after-image has the same status of ontological individual "object" as the body from which it was originally derived. Since the difference between the two is granted he should have pressed his argument on the score of that difference. Here, as elsewhere, Moore does not sufficiently capitalize on the point he brought out in his celebrated "Refutation of Idealism." Published (1903) in *Mind*, of which Moore became editor in 1921, that article has made many a sceptic uncomfortable. Everybody agrees that an object of actually present awareness cannot be such an object without such awareness. But the idealist must hold that potential objects of awareness are not only not actually conceived but *inconceivable*. Moore should have insisted that the idealist, by specifying what he rejects as "object," does conceive what he claims to be inconceivable; and by admitting *new* awareness, admits the concept of possible awareness. But, though the discussions in this volume may not

attract the dilettante, they will be appreciated by professors who must perforce know what contemporary philosophers are saying. What good they do to a troubled world is another question.

J. A. McWILLIAMS

HINDUISM AND BUDDHISM by Ananda K. Coomaraswamy. *Philosophical Library*, 1943. Pp. 86.

There are but sixty pages of text in this brochure, notes to the number of three hundred and seven filling out the remaining pages. An exhaustive treatment of the vast subject matter is therefore not to be expected. The author omits the history of the accretion of thought which produced Hindu and Buddhist doctrine, the differentiation of their many sects, the discussion of ritual, and any notice of the great shame of superstitious belief and unsavory practice. He does, however, essay to expound "from a strictly orthodox point of view," and with scrupulous citation of his sources, the fundamental "dogmas" of these two hoary oriental religions. The exposition will be less than clear to readers not conversant with Indian philosophy; consequently it is not too easily read.

Premising that "the mythical narrative is of timeless and placeless validity, true however and everywhere," he details the Indian cosmogonic theory which is adumbrated in the Vedas, adopted as an explanation of the ritual of sacrifice by the Brahmanas and cast into philosophic mold by the Upanishads. The primordial Being, through a prototypal sacrifice, dismembers himself, and the disjointed members are the gods, men, and every other being. The Being, however, survives as Person (*Atman*) and enters into his scattered members to animate them, for as yet they are as dead stones. From this inhabitation results the illusion of individual personality; which illusion, to speak forthrightly, is the root of all evil. For from it spring wrongly orientated thought and action, and every form of self-seeking. By inexorable law (*karma*) all these wanderings from the truth pile up as a species of demerit and necessitate a series of rebirths which will be endless unless a means be found to slough off the illusion of individual selfhood. The means are all contained in the Sacrifice, not sacrifice of material victims which is merely symbolic, but the slaying of the individual and illusory self by right knowledge of the all-embracing and real Self. Life's work, then, and the sum total of religious and moral duty is this: to stop self-seeking and seek the Self. Life's goal becomes the ataraxia of the imagined belief that one's own personality has been finally liquidated in the ocean of the One, the Real, the Brahma-*Atman*. Enroute to this goal, one must doggedly resign himself to his karma by "sticking to his caste from first to last."

It can hardly be maintained that "there are only broad distinctions of emphasis between Buddhism and the Brahmanism in which it originated" (p. 45). If the mind of the Upanishadic thinkers be compared with the mind of Sakyamuni, the former appears intoxicated with the delights of metaphysics, while the latter is insouciant about speculation. Wholly absorbed in the quest of a "way out" from the miseries of life, Sakyamuni used a minimum of metaphysics to show that desire is the root of misery, discouraged further intellectual curiosity in his followers, bade them devote themselves to the uprooting of desire. On the goal of life, too, his teaching is by no means to be identified with that of the Upanishads. Here the latter defend *mordicus* an absorption of the illusory self in the supremely real *Atman*, while Sakyamuni does not teach the existence of any ultimate real Being. To be rid of the misery is quite enough for him, and he does not promise his followers even the reward of the Barmecide feast of absorption in the Brahma-*Atman*.

Like many Hindus who address themselves to western readers, the author labors to demonstrate a close rapport between India's philosophy and religion and the philosophy and religion of the west. In the matter of the philosophies we find the author's parallels strained, nor do we believe any serious parallel possible simply because of the monism which is the master-idea of Hindu philosophy. It is on the religious question especially that the author shows a lack of understanding of the Christian doctrine. Christian self-denial, for instance, is caricatured when made out to be an allotrope of the dis-selfing yoga of Hinduism. The term "supernatural" cannot properly be applied to Hinduism, even to the Hinduism evolved by the great commentators Samkara, Ramanuja and others, while Christianity is supernatural in origin, faith, means of salvation and final goal. Lastly, the pantheistic monism to which Indian religion stands committed must keep it as far removed from Christian theism as "from the center twice to the utmost pole."

GEORGE C. RING

L'HOMME CONTEMPORAIN ET LE PROBLEME SOCIALE: Philosophie et Problemes Contemporains *par* Gerard Petit, C.S.C. *Editions Fides*, 1941. Pp. 434.

Here is a scholarly work which is worth its evident cost in time and study. Its title is a bit misleading. Perhaps more suitable, certainly more indicative of the book's contents would be something like: "Thomistic Social Philosophy as Applicable to Our Day"—with the emphasis on the Thomistic social philosophy. Divided very satisfactorily into seven chapters, the work explains the Thomistic concept of the various components of society, and contrasts it with the diverse notions of individualistic and collectivistic philosophies. The author has used well over four hundred references to original text—mostly of St. Thomas and various Popes, but also of other Scholastics, and of such men as Hobbes, Locke, Durkheim, Bergson, Marx, Hitler, Mussolini. The introductory list of contents before each chapter could have been better compiled, but the analytic index at the end of the book will prove a great help.

The seven chapters are devoted to studies of the individual as a person, society as a whole, the family, corporative or organizational society, civil society, international society, and the Mystical Body, or supernatural society.

The first chapter on the human person exposes the dehumanizing doctrines of the collectivistic "philosophy of pure unity" as seen in Marxism, National Socialism, and Fascism; and the asocial doctrines of the individualistic "pure philosophy of multiplicity." Before proceeding to the Thomistic teaching, the author examines the concept of personality. After referring to the theories of several non-Scholastics, and explaining the problem as both psychological and metaphysical, Fr. Petit follows Thomas in claiming that personality is an analogous concept. Types of personality (political, ecclesiastical, civil) are, of course, had by an analogy of attribution. Moral personality, however, is the fusion of psychological and metaphysical aspects of a concrete being in relation, through intelligence and free choice, to an end to be realized; hence such personality is understood to be analogous according to the analogy of proper proportionality. The point is well made, and supplies the two keys for understanding the entire social doctrine: analogy of proper proportionality, and finality. Society, and various types of society, exist to achieve a common good: this common good differs according to the needs of human life, and the societies corresponding to the diverse ends will differ accordingly.

After explaining the person's relation to society, the author proceeds to a study of general society. Again he attacks both the asociality of indi-

vidualism and the excessive sociality of sociologism, universalism, and other types of collectivism. Having explained the four causes of society, he examines the significance of authority, and concludes with a clear listing of the types of society.

The chapter on the family is very good. The author follows his usual method of treating first the adversaries of the Christian position and presenting the metaphysics of familial society. His treatment of both the primary and secondary ends of marriage and the family is very well done.

The chapter on corporative society is not so conclusive. He calls corporative society natural, differing only in *degree* from the natural society of the family. His two principles of finality and analogy allow him philosophically to substantiate his claim, but both his general approach and historical argument seem to indicate wishes rather than certitude.

The chapter on civil society makes a neat little treatise in itself, referring satisfactorily to opposed doctrines, the connection between morality and politics, the purpose of civil society, the indifference as to type of government, the political virtues, and the distinction—very little understood—between liberty and liberties.

The author is more on his own when he treats of international society. This reviewer's impression is somewhat vague as to just what he is refuting in internationalism. He is anxious to hold the middle road between cosmopolitanism and international anarchy. This reviewer of course holds no brief for either, but to him the author does not seem to achieve a philosophical proof against cosmopolitanism. Patriotism and national ties of blood, language, customs, geography, and so forth, certainly are not enough to warrant the natural, philosophically exclusive requirement of a plurality of nations—especially when one realizes that the difference between two urbanites of the same class in different countries is not as great as that between an urbanite and rustic of the same land. In general, though, the author chooses the right direction in supporting international charity and cooperation while sustaining national integrity.

The final chapter is devoted to that society which serves men's spiritual needs, the Mystical Body of Christ and its visible expression, the Church or ecclesiastical society. Once more the treatment is sound, veering to neither extreme.

Here are a few incidental matters which might be broached: The author could have defined his use of "solidarity," especially since the school of Pesch's solidarists attach a definite meaning to it. In combatting universalism, Fr. Petit might have afforded a stronger thesis and proof for free will. Again, while we have seen that the title is a bit misrepresentative, still an application of his admirable doctrine in the problem of social philosophy to such practical problems as eugenics, divorce, international cooperation, and the like, would have been in order.

Credit is due Fr. Petit for acknowledging the stimulus of socialism to recognize human dignity, even if in many of its phases and certainly in its ultimate effects it nullifies that stimulus. The book is an undoubtedly contribution to social-philosophic literature and will repay careful study.

JOSEPH B. SCHUYLER

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